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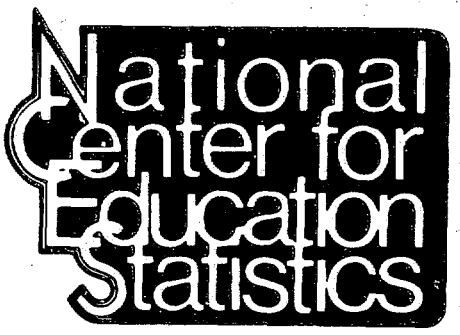
COLLEGE ATTAINMENT FOUR YEARS AFTER HIGH SCHOOL



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COLLEGE ATTAINMENT FOUR YEARS AFTER HIGH SCHOOL

by

Bruce K. Eckland
Louise B. Henderson

Center for Educational Research and Evaluation
Research Triangle Institute
Research Triangle Park, N.C. 27709

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Andrew J. Kolstad, Project Officer

U.S. DEPARTMENT OF EDUCATION
Shirley M. Hufstedler, *Secretary*

Office of Educational Research and Improvement
James Rutherford, *Assistant Secretary for Educational Research and Improvement*

National Center for Education Statistics
Marie D. Eldridge, *Administrator*

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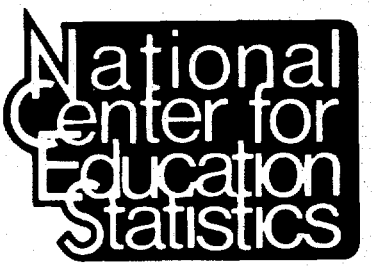

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May 1981

HIGHLIGHTS

The following estimates and generalizations were derived from data from the base-year and the first three follow-up surveys of the National Longitudinal Study of the High School Class of 1972 (NLS-72):

- Whereas 41 percent of the senior class enrolled in academic programs in college in 1972, 10 percent more entered sometime between 1973 and 1976. (See Table 1.)
- Although only three out of ten of those enrolled in 1972 had entered two-year colleges, five out of ten delayed entrants entered two-year institutions. (See Section II.E.)
- Independent of social class, race, or ability, students who entered two-year colleges were substantially more likely to leave college without receiving a Bachelor's degree by 1976 than were those who began at four-year colleges. (See Section IV.B.)
- Men were somewhat more likely to go to college than women. However, women were more likely to graduate on schedule. (See Table 6.) On the other hand, men were more likely to return if they had dropped out. (See Section IV.C.)
- One out of four students between 1972 and 1976 had attended college only part-time. The number of part-time students increased over time and was much higher each year in two-year colleges than in four-year colleges. (See Figure 4.)
- Part-time attendance was far more related to lower academic ability, high school curriculum, and prior noncollege educational goals than to sex, race, or social class. (See Section III.B.) It also was strongly related to being married, to living at home with one's parents, and to being employed while attending college. (See Section III.C.)
- Among those who entered college in 1972, 46 percent had dropped out at some point by 1976, 34 percent within the first two years but only 12 percent thereafter. After one year in attendance, the dropout rates were substantially higher among the delayed entrants than those who entered in 1972. (See Section IV.)

- Thirty percent of all college dropouts between 1973 and 1975 had returned by 1976. The return rate was somewhat higher for students who had more time than others already invested in college. (See Section IV.C.)
- Only 15 percent of the entire NLS-72 cohort had received a Bachelor's degree by 1976 (36 percent of all first-time enrollments in 1972). Yet, 16 percent of the cohort were still enrolled and pursuing degrees in 1976. (See Section V.)
- Thirteen percent of those who had graduated by October 1976 received their degrees ahead of schedule (i.e., before May 1976), an event that was unrelated to social class, race, or ability. (See Section V.B.)
- Although relatively few two-year college entrants in 1972 had received bachelor's degrees by 1976, many had received two-year diplomas and were still enrolled in college. (See Section V.C.) However, among those still enrolled, those who started out at two-year instead of four-year colleges had earned fewer credit hours. (See Section V.F.)
- Even when controlling for ability, social class had a positive impact on enrolling in college both immediately after high school and among delayed entrants (see Table 2), on enrolling at a four-year instead of a two-year institution (see Table 3), on staying in college (see Table 4), on returning after dropping out (see Table 5), and on graduating on schedule. (See Table 7.)
- Blacks were less likely than whites to enter college on schedule (see Section II.B) and more likely to drop out (see Section IV.A). On the other hand, blacks were more likely to enter college after 1972 (see Section II.B) and more likely to enter four-year rather than two-year colleges in all time periods (see Section II.E). When controlling for ability, blacks were more likely than whites to enter college (see Figure 2), to remain in school (see Figure 5), and to graduate on schedule (see Figure 7).

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FOREWORD

The National Longitudinal Study (NLS) of the High School Class of 1972 is a large-scale long-term survey effort designed to provide an ongoing and updated data base containing statistics on a national sample of students as they move out of the American high school system into the critical years of early adulthood. A group-administered survey of these young adults was first conducted in the spring of 1972 prior to their leaving high school. This data collection effort was followed by a series of mail and personal interview follow-up surveys, the first of which was conducted during the period October 1973-April 1974. Second follow-up data collection began in October 1974 and was completed by April 1975, and the third follow-up survey took place from October 1976 to April 1977. The primary purpose of these surveys was to obtain information concerning the basic educational vocational activities, plans, aspirations, and attitudes of young adults after they leave high school and the investigation of the relationships of this information to their prior educational experiences, and personal and biographical characteristics. Data collected from the in-school and follow-up surveys have been merged and edited for analysis purposes and stored on magnetic computer tapes (1978 NLS master file) for future access.

This report is an in-depth analysis of NLS respondents who went to college, who dropped out, who returned, and who graduated on schedule. The information presented is descriptive of the college careers of young adults about four and one-half years after high school. Most of the tables and figures focus on socioeconomic status, race, and sex differences in the college attainment process, after controlling for ability level. Careful attention is given to which students entered two- or four-year colleges and the resulting consequences. This report also gives special attention to the part-time students.

David Sweet, Director
Division of Multilevel Education Statistics
NCES

C. Dennis Carroll, Chief
Longitudinal Studies Branch
NCES

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I. INTRODUCTION

A. The National Longitudinal Study

The National Longitudinal Study (NLS-72) is a large-scale survey project whose primary purpose is the observation of the educational and vocational activities, plans, aspirations, and attitudes of young people after they leave high school. It permits investigations of the relationships of this information to the prior educational experiences and personal and biographical characteristics of the High School Class of 1972. The study enhances our understanding of the development of students as they pass through the American educational system and of the complex factors associated with individual educational and career outcomes. Such information is essential as a basis for effective planning, implementation, and evaluation of Federal policies and programs designed to improve educational opportunity and achievement and to upgrade occupational attainments and career outcomes.

Following a rather extensive period of planning, which included the design and field test of survey instrumentation and procedures, a full-scale survey was initiated in spring 1972. The sample design called for a deeply stratified national probability sample of 1,200 schools with 18 seniors per school, school size permitting. The resulting base-year sample of 18,143 students from 1,044 high schools provided base-year data on up to three student centered data-collection forms: a test battery, a Student's School Record Information Form, and a Student Questionnaire. The questionnaire was completed by 16,683 seniors.

The first follow-up survey began in October 1973 and ended in April 1974. Added to the base-year sample were 4,450 seniors from the Class of 1972 in 256 additional schools that had been unable to participate earlier, as well as more than 1,000 students who had been classified as base-year nonparticipants. This brought the total first follow-up sample to 23,451 potential respondents. First follow-up forms were mailed to 22,654 students. These forms were completed by 21,350 sample members, 69 percent of the forms by mail and 31 percent by personal interview. Of the 16,683 seniors who completed a Student Questionnaire, 15,635 took part in the first follow-up survey--a sample retention rate of 93.7 percent.

The second follow-up survey began in October 1974, when forms were sent to 22,364 potential respondents, and ended in April 1975. Second Follow-Up Questionnaires were completed by 20,872 persons, 72 percent responding by mail and 28 percent by personal interview. Of the 21,350 persons who completed a First Follow-Up Questionnaire, 20,194 (94.6 percent) also participated in the second follow-up survey.

The third follow-up survey began in October 1976 and ended in May 1977. Questionnaires were mailed to the last known addresses of the sample members whose addresses appeared sufficient and correct and who had not been removed from active status by prior refusal, reported death, or other reason. Some 20,092 members completed a Third Follow-up Questionnaire, 80 percent by mail and 20 percent by personal interview. The sample retention rate from the second to the third follow-up survey was 94 percent; the retention rate over the four and one-half years between the base-year and third follow-up surveys was 88 percent. Approximately 85 percent of those completing student questionnaires in the base-year survey participated in all three follow-up surveys.

The potential uses for the information being gathered by these studies are many. The broad data base and succession of observations on the same individuals over time fill a widespread need on the part of educational researchers and administrators for information on the transition from adolescence to adulthood, including the flow of young people through the postsecondary occupational-educational system. The data provide insights for identifying and understanding the major branching or decision points that affect the educational, occupational, and other life patterns of individuals in the period following high school.

B. Objectives of this Report

The information presented in this report is descriptive of the college careers of young adults about four and one-half years after high school. It is an in-depth analysis of who went to college, who dropped out, who returned, and who graduated on schedule. Controls on various background characteristics of the students are introduced in most of the tabular presentations. In addition to social class, race, and sex, these include other factors, such as ability test scores, high school curriculum placement, and educational plans.

The timing of the third follow-up survey (October 1976) corresponds to the point when those members of the senior class of 1972 who enrolled in college immediately after high school would have graduated with Bachelor's degrees if "on schedule." This pattern, however, assumes a "normal" sequence of events, which is only one route to a college degree. In addition to the fact that some students delay going to college, others drop out and then return, while still others take longer than four years in continuous attendance before graduating. As it turns out, the "deviant cases" actually outnumber those who graduated on schedule. That is, there were slightly more members of the senior class of 1972 who were still enrolled in an academic undergraduate program in college in October 1976 than had graduated, a finding that was reported in NCES's earlier capsule summary of the third follow-up data (Eckland and Wisenbaker, 1979).

The main objective of this report is to examine what factors are associated with this pattern of events, including not only who entered college on schedule and who entered later, but who dropped out and who came back. Our discussion and most of the tables and figures focus on socioeconomic status, race, and sex differences in the college attainment process. In doing so we will also control for differences in ability between these groups. Our reasoning, to be discussed in more detail later, is that most policy and research issues on equality of educational opportunity are concerned not simply with <u>who</u> goes to college but <u>why</u> the disadvantaged do not fare as well as others. As will be demonstrated in this report, ability wholly explains the lower than average rates of postsecondary school achievement of some groups, but not others.

Careful attention also is given to which students entered two- or four-year colleges and the resulting consequences. Other national data show that over the past two decades the proportion of high school graduates entering junior and community colleges has more than doubled. However, this could be a mixed blessing if such colleges frequently turn out to be a dead-end for those pursuing four-year academic degrees.

In addition, this report gives special attention to the part-time students. By 1976, 23 percent of all students who had attended an academic program in college were enrolled only part-time for one or more terms. Is this simply another feature of the junior and community college syndrome? Who attends only part-time? Were these students more likely than others to

be living at home with their parents or to be married or to be working while trying to pursue a college degree? These questions will be answered in a special section of this report.

Also contained in a later section on students who by 1976 had graduated are discussions of those actually graduated ahead of schedule, those who obtained two-year diplomas instead of four-year academic degrees, those who were still on schedule but had not graduated because they were enrolled in five-year programs, and those who were not enrolled for brief periods during some other part of the year. This last item could have been troublesome since most of the NLS-72 analysis in this and other reports relies very heavily on the October dates for defining and classifying college enrollments. As it turns out, the October dates miss less than one percent of the NLS class of 1972 ever enrolled by 1976 in an academic program in college.

C. Related Literature on the NLS-72

A large number of studies using the base-year and first and second follow-up data from the NLS have already been completed. Many of these studies were recently summarized in a published review by Eckland and Alexander (1980). Only the results of those studies most relevant to the questions being addressed in this report will be mentioned here, beginning with who goes to college and where. This will then be followed by a brief review of the college attrition literature.

Consistent with various other reports on enrollments in higher education, one of the original studies of the class of 1972 showed an upward trend over the past decade, at least for females, when compared to the 1961 Project TALENT study (Peng, 1977a). The sex difference in college attendance rates for high school graduates had dropped from 9.4 percent in 1961 (TALENT) to 3.7 percent in 1972 (NLS), with males still somewhat more likely than females to attend college immediately after graduating from high school. Later we will show in the 1972 cohort that this gap widened between 1972 and 1976 due to the tendency for more males than females to be delayed entrants.

Peng's study also found that when the 1972 college entrants were compared to the 1961 TALENT cohort, the proportion of highly able students going to four-year colleges was on the decline. Although this probably has

little to do with the national score decline on standardized tests like the SAT, the score decline did lead to another study in which the 1972 NLS data were directly compared to TALENT (Beaton, Hilton and Schrader, 1977). By equating one of the verbal tests used in both the TALENT and NLS surveys, it was found that about two-thirds of the SAT score decline between 1963 and 1972 was due to changes in the composition of students taking the test, especially the increasing proportion entering two-year colleges. In other words, most of the score decline (at least before 1972) was not due to a decline in the quality of the educational system but simply the result of more low ability students taking the tests in order to go to college. As we later will see in this report, standardized tests of mental ability are one of the most powerful predictors of not only who went to college but who graduated. In fact, whereas 35.2 percent of the senior class of 1972 who were in the highest quartile of ability had obtained Bachelor's degrees by 1976, only 2.1 percent of those in the lowest ability quartile had done so.

Several NLS-72 studies have addressed the issue of whether the higher college attendance rates of students from higher socioeconomic backgrounds, whites, and males are due to the academic credentials of these students or are due to other differences between groups (Thomas, Alexander, and Eckland, 1979; Thomas, 1977; Thornton, 1978; Thornton and Eckland, 1980; Jackson, 1976; Lindsay, 1978). In these earlier studies (as replicated in this report), social class, race, and sex (in combination) explain substantially less of the variance in who attends college than do a high school graduate's academic credentials, as measured by ability, grades, and curriculum. These studies also found, when controlling for ability, that black high school graduates were more likely than white graduates to go to college. In contrast, ability explained less than half of the depressant effects of social class on who went to college. One of the questions to be addressed in this report is whether these findings can be generalized to the delayed entrants, who by 1976 constituted 18 percent of all college enrollments from the class of 1972.

Several NLS-72 studies also have been completed on where students go to college, some of which have dealt with two- versus four-year institutions (Peng, 1977a, 1977b; Bowers et al., 1977), while others have ranked colleges using Astin's selectivity index (Bailey and Collins, 1977; Lindsay, 1978) and at least one study has examined attendance patterns at traditionally

black colleges (Eckland, 1979). In this report, we focus only on the two- and four-year distinction. Not surprisingly, the earlier studies based on the first and second follow-up surveys found that junior and community colleges tended to attract more lower ability and lower socioeconomic students than did four-year colleges. These studies also found that, when controlling for ability, blacks were much more likely than whites to enroll in four-year institutions. This report deals with these same issues but also with the consequences of where students went to college.

Dropping out of college is often taken as a sign of failure. However, for a variety of reasons it need not be, including the fact that many dropouts return. Several NLS-72 studies already completed have examined early withdrawal (Kolstad, 1977; Peng and Fetters, 1978; Bowers et al., 1977). Not unexpectedly, the attrition rates were substantially higher among two-year than four-year college entrants, a finding that is to be supported here. However, the earlier studies all differ in important respects from the present report, partly because the time period now has been extended but also because we have employed a far more elaborate and restricted definition than used in any of the earlier studies of who originally enrolled in an undergraduate college program.

Who drops out of college has been an issue in higher education for many years. In fact, over just the past decade three major review articles have been published, each of which has attempted to synthesize the empirical literature from hundreds of college attrition studies (Pantages and Creedon, 1978; Tinto, 1975; Spady, 1970). As a whole, these studies have found that academic credentials, like scholastic ability and high school grades, are by far the most important background factors that predict college attrition. Past results have been much more mixed on the importance of social class and sex, and hardly any studies on college dropouts have been done on race differences. The NLS-72 studies listed earlier have come to largely the same general conclusions, but have given considerably more attention to race effects. Focusing only on early attrition, the main finding has been that when other background variables are controlled, blacks are substantially less likely than whites to become college dropouts. In this report we will re-examine this and other questions on dropouts in order to determine if the findings on early withdrawal hold up in the long run, an issue of some concern given the tendency of many dropouts to come back.

To our knowledge only two longitudinal studies have focused on college dropouts who came back and neither of these were studies of a national population. One was a study of the entering freshman class (males only) at the University of Illinois in 1952, which was followed up ten years later (Eckland, 1964a, 1964b), while the other was a study of the freshman class at the University of Wisconsin in 1964, which was followed up seven years later (Campbell, 1980). The Illinois and Wisconsin studies found that only 28 percent and 26 percent of the males, respectively, had graduated from college on schedule four years after matriculation. The comparable figure in 1976 for all males in the NLS-72 cohort who entered college in 1972 was 32 percent, which is higher than the rates reported in the Illinois and Wisconsin studies, but not surprisingly so given the respective overlap of the students in those two earlier studies with the Korean and Viet Nam wars. What contradicted conventional wisdom as shown by these two studies was that substantially more students earned degrees after the "normal" four years. In the Illinois study the total graduation rate eventually went up to 69 percent, while in the Wisconsin study (for males) it climbed to 71 percent. In both studies about half of the delayed graduates had been in continuous attendance but simply took longer than expected to graduate, while the other half were dropouts who came back.

Times apparently have not changed. As noted in this introduction, the proportion of students in the NLS class of 1972 who were attending college as undergraduates in October 1976 outnumbered those who had graduated. The analysis to follow deals in particular with the question of who returns after dropping out. We expect to find, as in both the Illinois and Wisconsin studies, that although ability is the strongest predictor, social class also has an effect on who returns independent of ability.

D. Constructed Education Variables

Although most of the information presented in this report uses data from the base-year survey of 1972 and the third follow-up survey of 1976, it also requires data from the first and second follow-up surveys due to the need for precise information on all college enrollments during the intervening years. Most percentage distributions, therefore, are based on sample weights for respondents to the base-year and all three follow-up surveys.

The most troublesome set of variables to measure in this study was that set defining who enrolled each year in an academic undergraduate program in college. Out intent was to rule out students attending vocational and technical schools as well as those attending two- or four-year colleges who were in vocational programs such as stenography, auto mechanics, cosmetology, etc. (Our reasoning simply was that we wanted to focus on not just who went to college but on who graduated with a Bachelor's degree on schedule--assuming that they were in a degree program--and who dropped out.) Since most students indicated the type of college in which they were enrolled each year, there was no serious problem in ruling out those who were not attending a two- or four-year college. However, the junior and community college enrollments, especially, led to many difficulties. In 1972, for example, hundreds of students attending these colleges originally were misclassified as being enrolled in vocational programs due to some ambiguities in the construction of the First Follow-Up Questionnaire, yet by 1976 they had received four-year Bachelor's degrees. And other problems (fortunately less serious) arose in the second and third follow-up surveys. All these problems required an extensive re-examination of the NLS survey data and the development of mechanisms for correcting the academic status data for each year.

Steps were taken to resolve all problems of misclassification on the college attendance variables whenever 20 or more cases (about one-tenth of one percent or more of the total number of respondents) on any particular variable appeared to be in error. The means used to make all such corrections, as well as the problems and results, are discussed in detail in a separate report (B. K. Eckland, L. B. Henderson, A. R. Tickamyer, and W. T. Trent, Constructed Education Variables, North Carolina; Research Triangle Institute, 1980).* Given the complexity of the problems and the work invested in solving them, NCES plans to include the constructed variables in its release tapes for other NLS data users.

The classification of background variables used in this report, i.e., socioeconomic status (SES), race, sex, ability, high school curriculum, and educational plans, do not differ from those used in many past NLS-72 studies.

* The text of this report is presented in Appendix D.

Both SES and ability are weighted linear composites each derived from different components measured in the base-year survey, with students grouped into quartiles for purposes of this report. More information on the construction of these variables is given in Appendix B.

Readers may be somewhat concerned about whether or not earlier NLS-72 reports on college attendance and attrition are seriously in error. In our estimation they are not for three reasons. Even though six to seven hundred cases in this report have been altered when compared to earlier reports of who went to college in any given year, the error affects only two or three percent of the total sample. Second, past studies on response error have consistently shown that slight variations in the distributions or variances on any particular set of variables do not seriously affect the magnitude of the correlations usually found between variables. And third, many of the past studies have defined college enrollments in different ways, some having included all vocational students in two-year institutions, in which case no analogies can be drawn to the findings in this report.

One last point. Most studies today on the educational attainment process use path models or regression analysis in order to more fully understand why some students are more successful than others. Such studies are very important for several reasons: they can take into account the possibility that two correlated variables are not causally related to each other but are correlated simply because they are both dependent on some antecedent variable; they sometimes can show how one factor impacts on another, i.e., directly or indirectly through some intervening variable; and they can generally assess the relative magnitude or strength of different factors affecting any dependent variable. Each of these points argues for further work on the issues addressed in this report.

There are, on the other hand, some advantages in beginning any major study on the college attainment process in the descriptive manner used here, especially when the nature of the analysis is exploratory. When investigators turn too quickly to regression analysis, the interactions of the independent variables are often overlooked. (For example, in Table 3 the relationship between SES and attending a two-year versus a four-year college markedly differs for different ability groups, in one case being positive, in another being zero, and in another being negative. If typical regression analysis had been employed with no allowance for interactions,

then no correlation between SES and where a student went to college would have been found.) The only major problem in doing descriptive studies is having enough cases to be able to crosstabulate the data in enough ways to make the effort worthwhile. NLS-72 is not unlimited in this respect, but at least it is large enough to answer some basic questions on the relative impact of at least two independent variables in almost any crosstabulation.

II. FIRST-TIME ENROLLMENTS

About 51 percent of the High School Class of 1972 had enrolled in an academic program in college by 1976. For various reasons, many of these students did not enter right after completing high school in 1972 but entered sometime between 1973 and 1976, the figures being 41 percent and 10 percent, respectively.* Not surprisingly, the number of first-time enrollments steadily declined each year, and, in all probability, the number will continue to decline. The figures each October after 1972 were 3.7 percent in 1973, 2.7 percent in 1974, 2.2 percent in 1975, and 1.5 percent in 1976.

As Table 1 indicates, most students (7 out of 10) who enrolled in 1972 had entered four-year colleges. Of those attending for the first time in 1973 and 1974, however, the numbers were about equally split between four-year and two-year institutions. And by 1975 (and again in 1976) the majority of all first-time entrants were enrolling in junior and community colleges. Although the numbers in the total population are not large, the continuing entry into two-year colleges for the first time by so many students several years after high school is worth a special comment. It is clear evidence of the important function that these institutions have in providing "open access to higher education" for students who wait longer than average to go to college.

Who goes to either a two-year or four-year college is discussed at the end of this section of the report. Before taking up that topic, however, we examine some of the background characteristics of all students in the

* Throughout this report, delayed entrants include not only students who entered college after 1972 for the first time but students who entered vocational programs in 1972 and later transferred into an academic program.

Table 1.--First-time enrollments, percentage distribution by year of entry*

First-time enrollments	1972	1973	1974	1975	1976
Enrolled:					
Junior or community college	12.3	1.7	1.2	1.3	0.9
Four-year college	28.4	1.9	1.4	0.9	0.6
Enrolled, but type unknown	0.7	0.1	0.1	0.0	0.0
Other enrollments**	0.0	33.8	30.4	29.8	15.3
Not enrolled	58.6	62.4	66.8	67.9	83.1
Totals	100.0	99.9	99.9	99.9	99.9

* Data are shown for all students enrolled in academic undergraduate programs only (weighted data with a common sample size of 19,015 cases in the denominator).

** "Other enrollments" include persons continuing from the previous year as well as those who dropped out and returned.

NLS-72 cohort who either enrolled in college in 1972 or waited a year or more before enrolling (the "delayed entrants"). The background characteristics to be considered include SES, ability, race, sex, college plans, and high school curriculum. Complete data on all materials covered in this part of the text can be found in Tables 1.1, 1.2, 1.3 in Appendix C.

A. Socioeconomic Status and Ability

Two of the most powerful predictors of who goes to college are aptitude test scores and social class background. By 1976, 81 percent of the NLS-72 cohort who were in the upper quartile of ability had enrolled in an academic college program in contrast to only 24 percent of those in the lower ability quartile. An identical percentage, 81 percent, of those who came from the upper quartile of socioeconomic status (SES) had enrolled in college in contrast to 31 percent of those in the lower SES quartile.

Because ability and SES are strongly related to each other, it usually is important to "control" for one of these variables while looking at the "effects" of the other on who goes to college. For example, the high college attendance rates of students coming from a higher SES background

might be wholly explained by the fact that most of these same students scored higher than average on the ability tests. Or, on the other hand, the observed correlation between ability and college attendance might be "spurious." That is, it is at least conceivable that this correlation is completely or largely accounted for by the dependence of both ability and college attendance on SES. As it turns out, the predictive power of both ability and SES tends to diminish when the other is controlled, but the effects by no means disappear.

As shown in Table 2, within every SES quartile, ability is highly related to college attendance. Likewise, within every ability quartile, SES is related to college attendance, although the effects of SES do not appear to be quite as strong as those of ability. The best examples of this are found at the high end of both predictors. In the top ability quartile, there is only a 30.4 percentage point difference in the college attendance rates of high school graduates who scored in the lower and upper SES quartiles; whereas, in the top SES quartile, the difference between those in the lower and upper ability quartiles is 46.8 percentage points. To put the matter somewhat differently, the ratio between the percentage of low and high SES students in the upper ability quartile who did not attend college was about five-to-one, while the ratio between the low and high ability students in the upper SES quartile was about eight-to-one. Although the effects of SES on college attendance are strong at all levels of ability, ability is a somewhat more important determinant of who goes to college.

Table 2.--College attendance, percentage by SES, and ability: All first-time enrollments between October 1972 and 1976

SES quartiles	Ability quartile			Difference between the lowest and highest quartiles
	Low	Middle	High	
Low	20.5 (1864)*	32.7 (1461)	62.6 (404)	42.1
Middle	22.7 (1593)	46.8 (3250)	73.0 (1635)	40.3
High	46.2 (311)	75.8 (1302)	93.0 (1630)	46.8
Difference between the lowest and highest quartiles	25.7	43.1	30.4	

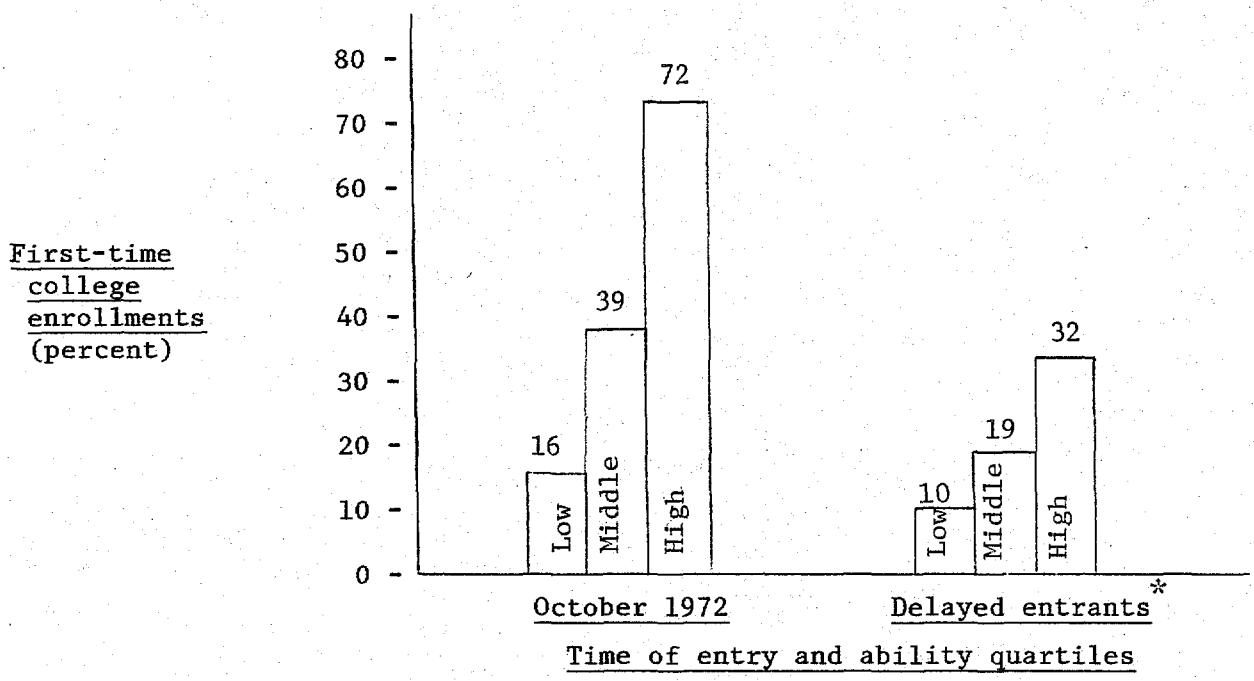
*The number of cases in each group upon which the weighted percentages are based are given in parentheses. Other crosstabulations on college attendance rates may be found in Tables 1.1, 1.2, and 1.3 in Appendix C.

The above results are based on all students who entered college within the first four years after high school. They may or may not apply to the one-out-of-five who were delayed entrants. It could be postulated, for instance, that lower SES students delay going to college because they have family obligations at home or because they need to work for a year or two in order to save enough money to go. If true, then the rate of delayed entry for these high school graduates might actually be higher than or at least as high as the rates for students from less disadvantaged backgrounds. The hypothesis, however, does not hold true.

Not controlling for ability, three times as many students in the upper SES quartile than in the lower quartile entered college immediately after graduating from high school. For those who did not attend college in 1972, the rates of delayed entry also were three times higher for students in the upper SES quartile than those in the lower quartile. Class background continues to be a powerful predictor of college attendance, even among the delayed entrants. And the same is true of ability (see Figure 1). Thus, a substantial proportion of high SES and high ability students who did not

enter college on schedule did so later. Specifically, in October 1972, 15 percent of all students in both the upper ability and SES quartiles had not yet attended college. By 1976, the number had been reduced to 7 percent.

Figure 1.--October 1972 entrants and delayed college entrants, by ability



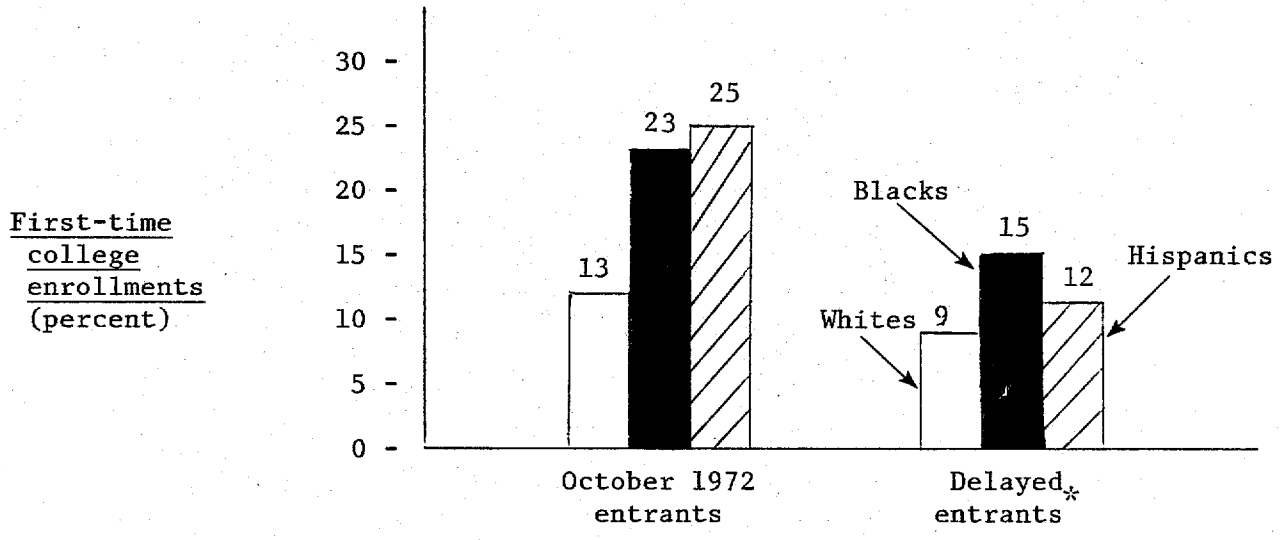
* The rates of delayed entry are based on the number in each ability group who in October 1972 were not already enrolled in college.

B. Race and Sex

Whites and males in the Class of 1972 were more likely than others to have attended college by 1976. The overall rates were 54 percent for males and 48 percent for females; 53 percent for whites, 47 percent for blacks, and 44 percent for Hispanics. Most of these differences are accounted for by first-time enrollments in 1972. For those who did not enroll right after high school, the situation was somewhat reversed, with proportionately more blacks than whites enrolling after 1972 (20 percent versus 17 percent). This difference was wholly due to the delayed entry rate of white females which was lower than all other groups: only 14 percent versus 18 to 21 percent for the other groups. As a result, the overall gap between blacks and whites in college attendance tended to narrow over time (from 9 percentage points in 1972 to 6 points in 1976).

When either ability or SES is controlled, all racial-ethnic differences in college attendance are totally reversed. Consider, for example, students in the lowest quartile of ability, which is where the majority of both blacks and Hispanics fall. The results, as shown in Figure 2, indicate that both blacks and Hispanics in this ability quartile are almost twice as likely as whites to have attended college in 1972. If they did not enroll in 1972, blacks and Hispanics also are more likely than whites to attend as delayed entrants. The overall rates of college attendance by students in this ability quartile were 34 percent for blacks, 34 percent for Hispanics, and 20 percent for whites. Higher rates of attendance for minorities also were found among students in the middle and upper ability quartiles. (See Table 1.1 in Appendix C.)

Figure 2.--October 1972 entrants and delayed entrants: lower ability quartile, by race



* The rates of delayed entry are based on the number in each racial group who were in the lower ability quartile and in October 1972 were not already enrolled in college.

C. College Plans

About three-fourths of the students (76 percent) who had both planned and wanted to go to college when they were seniors in high school went immediately after graduation. The number increased another ten percentage points (to 86 percent) by 1976. Probably of more interest are those who wanted to go but had not planned on doing so--about 13 percent of all high

school seniors. Only 9 percent of these students attended in 1972, but an additional 15 percent had enrolled by 1976, bringing the total in this group to 24 percent.

About 20 percent of the high school seniors neither planned nor wanted to go to college, and not surprisingly, only 3.5 percent in this group actually did go in 1972. However, twice as many more (7 percent) attended after 1972 due, presumably, to events that occurred after high school which no doubt included a major change in life goals.

D. High School Curriculum

Most students (80 percent) who were enrolled in an academic curriculum in high school eventually attended college, 70 percent soon after graduation and 10 percent more by 1976. And not surprisingly, considerably fewer students in either a general or vocational curriculum enrolled during this period, 37 percent and 20 percent, respectively.

Just as in the case of some high school seniors who were not planning to go to college but later did after some delay, a somewhat similar pattern can be found for students in vocational programs. Of the fairly substantial number of vocational students who did enroll in an academic program in college by 1976, about two out of five did not attend until after 1972. In contrast, only one out of ten of those from the academic programs in high school who went to college were delayed entrants. Again, this suggests changes of some kind in the goals or values of these students after they have been out of high school for a period of time.

E. Two-Year and Four-Year College Entrants

This section deals solely with first-time enrollments in 1972 and focuses on whether these students entered two-year or four-year colleges. Of the background characteristics examined, only the sex of students was unrelated to where they went to college in 1972. One of the largest differences was between ability groups. Whereas only 18 percent of all first-time enrollments in 1972 from the highest ability quartile enrolled in junior and community colleges, 49 percent of those from the lower quartile did.

The correlation with SES also was strong, with 23 percent of those from the highest SES quartile enrolling in two-year colleges compared to 37 percent of those from the lower quartile. This SES difference, however,

does not hold within all ability groups. In fact, among students in both the lower and middle ability quartiles, being from a higher socioeconomic background gives no positive advantage of enrolling in a four-year instead of a two-year college. (See Table 3.) Only among students in the highest ability quartile does social class have an effect, with less than half as many students in the upper SES quartile (and also in this upper ability group) going to two-year colleges as students in the lower SES quartile.

Table 3.--Attendance at two-year versus four-year colleges in 1972, by SES and ability (percent)

SES quartiles	Ability quartiles			Difference between the lowest and highest quartiles
	Low	Middle	High	
Low	45.7 (259)*	34.9 (377)	28.5 (220)	17.2
Middle	48.3 (276)	42.1 (1187)	24.1 (1050)	24.2
High	57.2 (104)	35.2 (823)	11.7 (1388)	45.5
Difference between the lowest and highest quartiles	-11.5	-0.3	16.8	

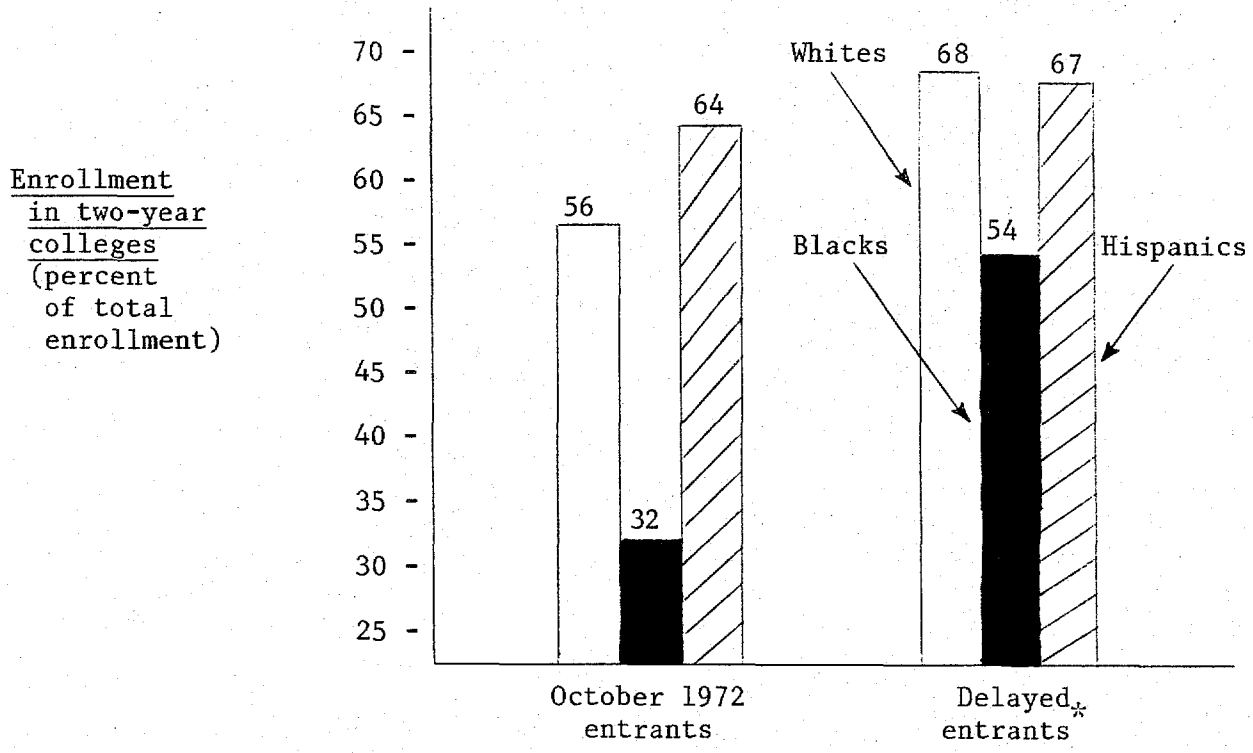
* The number of cases in each group upon which the weighted percentages are based are given in parentheses.

In contrast to the restricted effects of SES, the relation of ability to whether students entered a four-year or two-year college in 1972 was large and consistent in direction among all social classes. (Again see Table 3.) The most dramatic difference was among students in the highest SES quartile, with 57 percent of those in the lowest ability quartile attending two-year colleges in comparison to only 12 percent of those who were in the highest ability quartile.

Somewhat surprisingly, whites who enrolled in academic programs in higher education in 1972 were more likely than blacks to attend junior and community colleges. Controlling for either social class or ability, the difference was particularly marked. For example, among all students in the lower ability quartile, 56 percent of the whites in comparison to 32 percent

of the blacks entered two-year instead of four-year institutions. (See Figure 3.)

Figure 3.--Percentage of all October 1972 and delayed entrants in the lower ability quartile enrolling in two-year colleges (instead of four-year colleges), by race



* The two-year college percentages for delayed entrants are based on the number in each racial group who were in the lower ability quartile and who enrolled in college after October 1972.

Not surprisingly, substantially more students who were enrolled in either a general or vocational curriculum in high school ended up going to a two-year institution (rather than a four-year college) than those who had been in an academic program. Similarly, those who had both wanted and planned to go to college were much less likely than others to attend two-year institutions in 1972.

Turning to the delayed entrants, some but not all of the generalizations about those who attended two-year colleges in 1972 apply to those who enrolled for the first time between 1973 and 1976. Although being in an academic program in high school again was negatively correlated with enrolling in a junior or community college, neither sex, college plans, nor even social class were strongly related to who among the delayed entrants

enrolled in a two-year instead of a four-year institution. The main difference, once again, was ability. Whereas only 32 percent of all first-time enrollments between 1973 and 1976 from the highest ability quartile were in two-year colleges, 63 percent of those from the lower quartile were in two-year colleges.

Race differences in where students went to college among the delayed entrants were basically the same as those found for first-time entrants in 1972. Whites were more likely than blacks to attend junior and community colleges (rather than four-year colleges) and the difference was much greater when controlling for ability. (See Figure 3.)

III. PART-TIME STUDENTS

It seems that going to college is commonly viewed by the public much like a full-time job or becoming a homemaker in that it presumably entails heavy responsibilities and a near total commitment of one's time. Typically in the past, the most important post-adolescent roles that men and women played--college student, job holder, homemaker--were thought to be largely independent of each other. If a person went to college it usually meant he or she was not in the labor force (even though the student may have worked part-time), and if a women married she usually did not go to college. This perspective, however, may be changing as an increasing proportion of those attending college are married and/or work at the same time. One of the consequences could be that an increasing number of students are attending college only on a part-time basis. This is the main subject of this part of our report. We also will examine some of the background characteristics of students who attend part-time and we will compare the situation at two-year and four-year colleges. Once again (as throughout this report) the discussion is restricted to undergraduates in academic programs in college; and most of the data can be found in Tables 2.1 through 2.6 in Appendix C.

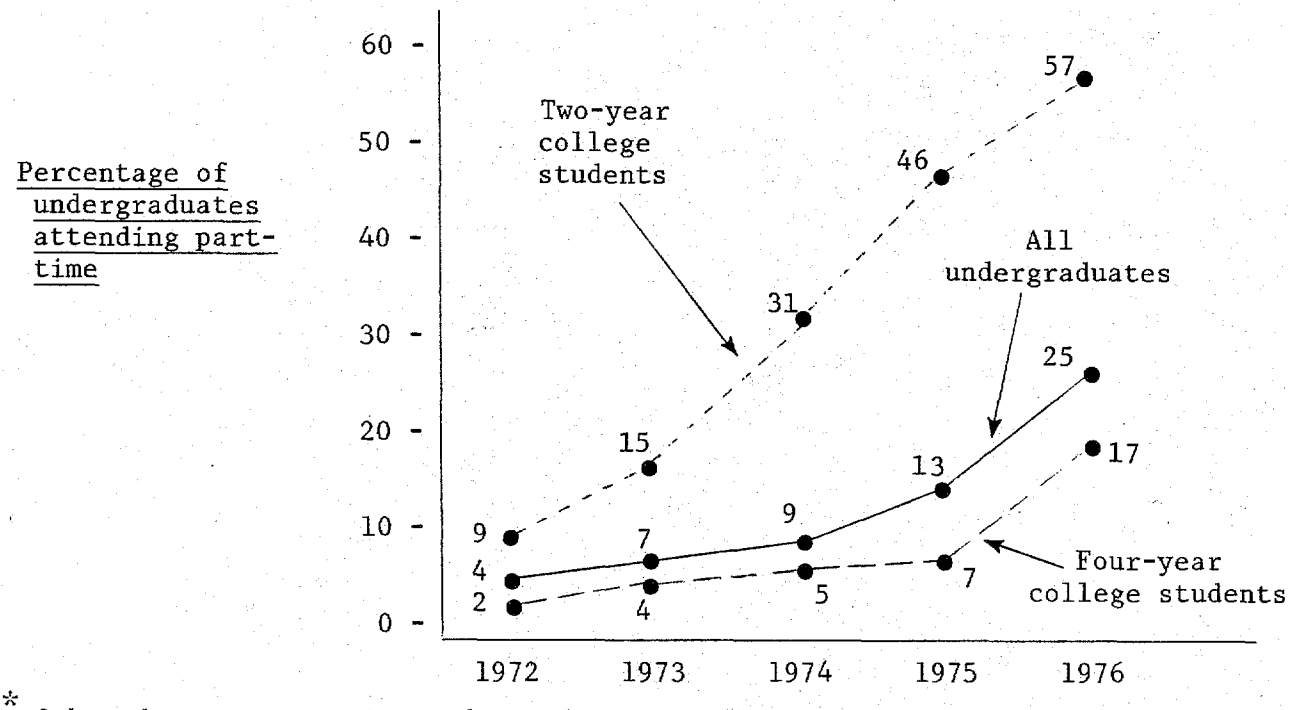
A. Increases Over Time: 1972 to 1976

The number of students from the Class of 1972 going to college part-time was quite small the first year after high school: only 4 percent of all who were in attendance. However, their proportion in the college-going population rose steadily over time. By 1976, one out of four students still

enrolled as undergraduates (including some first-time enrollments) was attending part-time. In absolute terms, whereas the number of full-time students had declined by 1976 (due to attrition or graduation), the number of part-time students each year increased.

Given the tendency of two-year college students (as to be shown shortly) to more likely be employed or married than students attending four-year colleges, it would not be surprising to find that these students are more likely to attend only part-time. Also of probable significance is the fact that most four-year institutions are "residential" colleges while most two-year institutions are "commuter" colleges. As it turns out, the rate of part-time attendance indeed was four to six times higher each year among students enrolled in junior and community colleges than among those enrolled in four-year colleges. (See Figure 4.) In fact, by 1976, 57 percent of all students in academic programs in two-year colleges were attending only part-time as contrasted to 9 percent in 1972. In the four-year colleges, the number had increased from 2 percent in 1972 to 17 percent in 1976 and this increase probably was at least partly due to the fact that nearly one out of five students who had entered college in 1972 was still

Figure 4.--Part-time college attendance as a percentage of undergraduate enrollments: 1972 through 1976*



* Other data on part-time undergraduate enrollments may be found in Tables 2.1 through 2.6 in Appendix C.

enrolled as an undergraduate in 1976, having neither dropped out nor graduated on schedule (a topic to be taken up later). Many of these students no doubt were close to having enough courses to obtain a Bachelor's degree and did not need to attend full-time in order to graduate.

In whatever year (except 1972) that a student attended college for the first time, that student was more likely to be enrolled part-time than others who were still attending college. This especially was the case at four-year colleges. For example, in October 1975, while the total number of part-time students at four-year institutions that year was only 7 percent, 44 percent of the first-time enrollments at these institutions that year had enrolled part-time.

By 1976, 23 percent of all students in the NLS who ever attended college had been enrolled part-time for at least one term, with 6 percent having attended part-time two or more years. Looking only at students who had attended exactly four years, 11 percent were listed as part-time for one or more terms. Thus, although a substantial amount of all part-time attendance occurs not surprisingly in two-year colleges and among students who attended college for only short periods of time, it also occurs more often than probably expected in four-year colleges and among students who have attended for more than two years.

In closing this section, let us look at the numbers in just one other way. That is, what proportion of all students who entered college in October 1972 (which is the majority) ever attended part-time either that year or later? The answer is 18 percent, with over three-fourths of the part-time cases in this group not occurring until after 1972. It appears that attending college part-time is more common than generally recognized. It is not a phenomena restricted to students who are interested in simply taking a few courses one particular term at the nearest community college.

B. Who Attends Part-Time?

Although females were slightly more likely than males to attend college part-time (most years) and Hispanics were somewhat more likely than either blacks or whites to attend part-time (all years), neither sex nor race was strongly related to who attended part- versus full-time. (See Table 2.5 in Appendix C.) SES also was related to who attended part-time, but not nearly so strongly as three other background factors: ability, high school curriculum, and college plans.

Ability had marked effects every year, the strongest being the second academic year after high school (October 1973). In that year, 17 percent of all college students in the lowest quartile were attending part-time in contrast to only 4 percent of those in the upper ability quartile. High school curriculum also was strongly related to part-time attendance. For example, in the third year out of high school (October 1974), 23 percent of all students who had been in vocational programs in high school but were now enrolled in an academic program in college were enrolled part-time in comparison to only 7 percent of those who had been in academic programs in high school. And a student's plans back in high school, not surprisingly, also predicted part-time attendance. In the fourth academic year after graduating from high school (October 1975), 47 percent of the students then attending college but who had neither planned nor wanted to attend were enrolled part-time in comparison to only 10 percent of those who as high school seniors had both wanted and planned to attend college.

Given these results, attending college part-time appears to be much more a function of a student's ability, academic preparation, and goals than a function of sex, race, or even social class. But these all are background variables. What may be more or equally relevant to the question of who attends part-time are the more proximate (current) events in the lives of students after they graduate from high school (to which we now turn).

C. Employment, Marriage, and Residential Status

Most part-time students (about four out of five) were employed while attending college, a figure that consistently (all years) was about double the employment rate for full-time students. In fact, the employment rate of part-time students was so high that it did not differ appreciably from that of persons not enrolled in college. Although most part-time students work while going to college, holding a job may be as much an excuse as an actual cause for not attending college full-time. We do not have the answer.

Marriage is probably as equally good a reason as employment for a student's attending college part-time instead of full-time, and the data would tend to support this. First, it should be noted that about twice as many persons were married if they were not enrolled in college at all (of both sexes) than if they were attending part-time. Second, and more important,

the proportion of part-time college students who were married was in some years about four times higher than the proportion of full-time students who were married. For example, in 1974, only 4 percent of the males attending college full-time were married in contrast to 16 percent of those attending part-time. In the same years, the proportion of females who were married was 5 percent for full-time students and 20 percent for part-time students. Like employment, marriage appears to be a major factor in whether a student attends college full- or part-time.

The last question in this section is whether or not part-time students are more likely than full-time students to be living at home with their parents. The answer is definitely yes, but this is not surprising given the fact that half or more of all students enrolled full-time were attending colleges some distance from home. It also should be noted that (among both sexes and in every year for which we have data on residential status, i.e., 1973, 1974, and 1976) those attending college part-time were more likely to be living at home with their parents than were persons not enrolled in college at all. It could be that parents have a continuing impact on whether or not their sons and daughters go to college especially if the offspring are still living at home. Or this finding could be simply due to the fact that, as noted above, subjects not enrolled in college were much more likely than others to be married and that marriage tends to remove the offspring from the residence of their parents.

IV. COLLEGE DROPOUT AND RETURN

As of October 1976, 36 percent of all students who entered academic programs in college in 1972 had graduated on schedule and another 18 percent had been continuously enrolled as undergraduates and had neither graduated nor dropped out. The remaining 46 percent had dropped out at some point in time; about 20 percent of these dropouts returned to college and were still enrolled in 1976.* In summary, the status of all 1972 college entrants from the High School Class of 1972 can be classified as of October 1976 as follows:

* Dropouts in this report include some students who originally were enrolled in an academic program leading to a two- or four-year degree but then transferred into a vocational program.

Graduated on schedule	36%
Dropped out and no longer attending college	37
Dropouts who came back and were still enrolled	9
No degree but in continuous attendance	18
Total	100%

In other words, 27 percent of the October 1972 entrants were still attending college in 1976, exactly one-third of whom had dropped out and come back. Yet an even larger number, 37 percent of the 1972 entrants, had dropped out and were no longer enrolled as of October 1976.

The main focus on college attrition in this report will be on students who entered college in 1972 and not on the delayed entrants, since we wish to discuss not only who drops out but also who comes back. It should be noted, however, that dropping out of college is a substantially more frequent and earlier occurrence for delayed entrants than for students who enrolled on schedule in 1972. Of the first-time enrollments in 1973, 1974, and 1975, the percentage who within one year had dropped out of college was 45 percent, 45 percent, and 49 percent, respectively. In contrast, of the students who entered college in 1972, only 18 percent had dropped out this early.

We will begin with an examination of who drops out of college, which will be followed by a discussion of the problem at different types of colleges (two-year and four-year) and then a discussion of who returns. Again, complete data on all materials covered below can be found in Tables 3.1 through 3.4 in Appendix C.

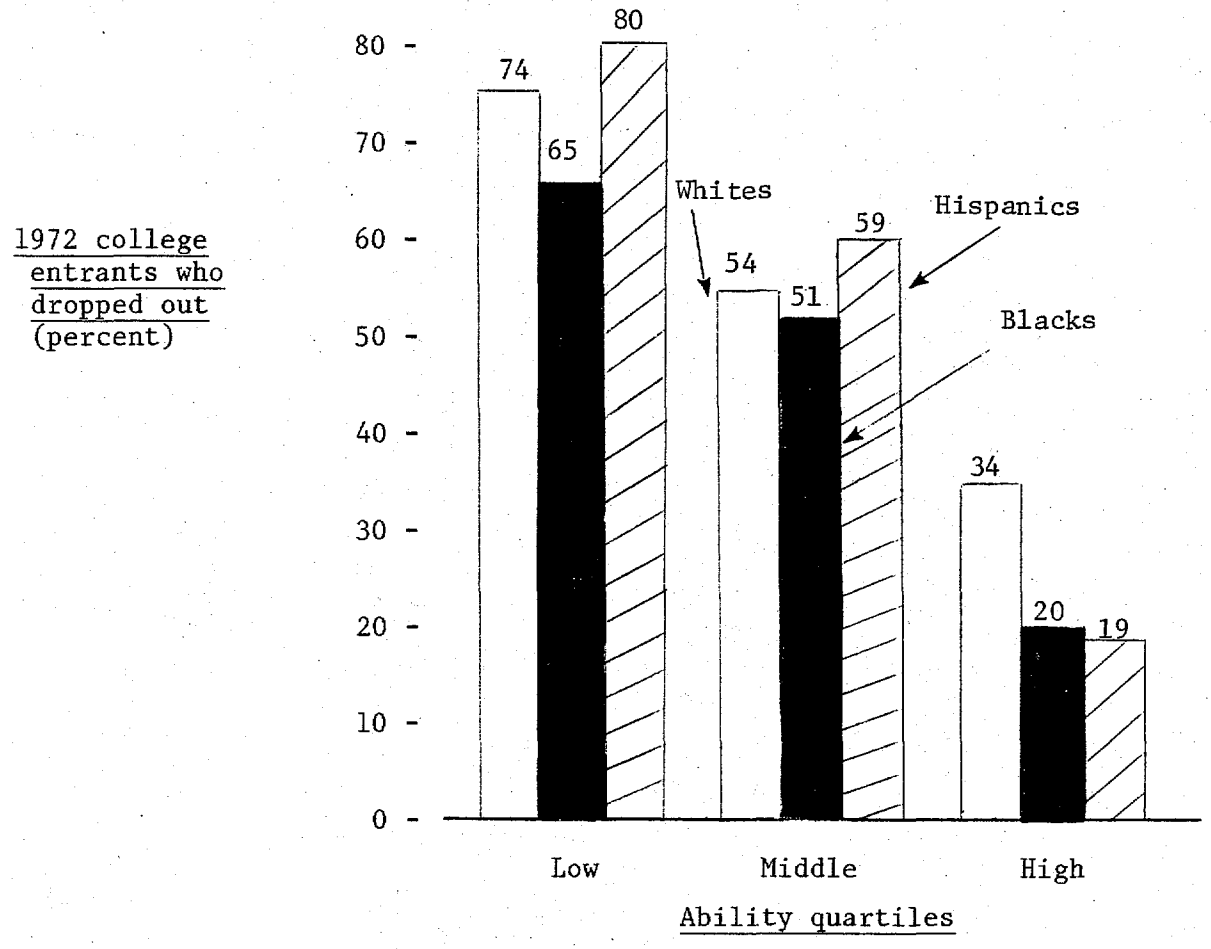
A. Who Drops Out?

This section is on who drops out and it ignores who comes back. In other words, all dropouts are considered independently of whether or not they came back at some later date. Nearly half of the students who entered college in 1972 (46 percent) became dropouts, with the proportion declining each year: 18 percent in 1973, 16 percent in 1974, 7 percent in 1975, and 5 percent in 1976.

Considering all dropouts irrespective of when they occurred, the rates for males and females were identical, a fact that was true for both whites and blacks. Race, however, was significantly related to dropping out of

college. The rates for whites, blacks, and Hispanics were 45 percent, 55 percent, and 65 percent, respectively. Yet, when ability is controlled, whites were consistently more likely than blacks to drop out. (See Figure 5.)

Figure 5.--College dropouts from the entering class of 1972, by race and ability



Ability was a strong predictor of college dropout, independent of race or socioeconomic status. Among blacks, for example, students in the lower ability quartile were over three times more likely than those in the upper quartile to drop out (65 percent versus 20 percent). Ability not only was more important than race in predicting who dropped out, it also was more important than social class. (See Table 4.) However, unlike the "reversed" race effect when ability is controlled, the positive effect of social class does not disappear when ability is controlled. Across all ability groups, coming from a higher instead of a lower socioeconomic background increases by an average margin of about 14 percentage points the probability that a student will not become a college dropout.

Table 4.--College dropouts from the entering class of 1972, by SES and ability

SES quartiles	Ability quartiles			Difference between the lowest and highest quartiles
	Low	Middle	High	
Low	71.2 (259)*	62.8 (377)	47.4 (220)	23.8
Middle	75.4 (276)	56.7 (1187)	39.4 (1050)	36.0
High	64.6 (104)	46.4 (823)	27.4 (1388)	37.2
Difference between the lowest and highest quartiles	6.6	16.4	20.0	

* The number of cases in each group upon which the weighted percentages are based are given in parentheses. Complete tabulations on college dropouts can be found in Tables 3.1 and 3.2 in Appendix C.

Not surprisingly, becoming a college dropout also is related to not getting good grades. Students who in just the first year of college were not able to obtain at least a "C average" were over twice as likely to become dropouts as students who achieved better than a straight "B average." The dropout rates were 79 percent and 35 percent, respectively, for each group. But fortunately (at least some believe), not many students actually flunk out of college. Based on self-reported data, only 6 percent of all freshmen fell below the "mostly C to B average" range.

B. Two-Year and Four-Year College Students

The dropout rate for students who had enrolled in an academic program at a junior or community college in 1972 was double the rate for those enrolling in four-year colleges, 71 percent versus 35 percent. Given such a marked difference in the outcomes for students attending two- or four-year colleges and the fact that 30 percent of all academic enrollments in 1972 were at two-year institutions, we will (a) examine whether or not race, social class, or ability differences in "who goes where" to college are responsible for the high attrition rates among students enrolled in two-year

institutions and then (b) re-examine the power of each of these background variables to predict dropout separately at these two types of institutions.

Given the fact that two-year colleges tend to attract low ability students and those from disadvantaged backgrounds, it is quite possible that one or more of these factors could explain the high attrition rates for students in academic programs at these institutions. First let us look at the differences between two-year and four-year colleges for separate racial groups. The percentage point difference in the dropout rates at the two types of institutions is 35.4 for whites, 35.1 for blacks, and 37.2 for Hispanics. (Recall that the difference, not controlling for race or anything else, was 36.0 points.) Thus, going to a junior or community college has almost exactly the same "negative" effect on the persistence of whites as it does for blacks and Hispanics.

Similarly, the social class of students has no bearing on the negative effects of attending a two-year instead of a four-year institution. The percentage point difference between two- and four-year colleges in dropout rates for students in the different SES quartiles (lowest, middle two, and highest) was 36.7, 30.7, and 36.5.

Ability, however, does help explain to some extent why the dropout rates are so much higher among students who enter academic programs in junior and community colleges. The average percentage difference in dropout rates between students who matriculated at two-year versus four-year colleges was 19.6 for students in the lowest ability quartile, 32.2 for those in the middle quartiles, and 18.8 for those in the upper quartile. (See Table 3.2 in Appendix C.) Two of these three figures are substantially smaller than the overall percentage difference of 36.0 in the attrition rates of two- and four-year college entrants. However, much of the difference still remains even when ability is controlled. In summary, the reason why students who enroll at four-year colleges are twice as likely as those who enroll at two-year colleges to stay in college long enough to obtain a Bachelor's degree is not a function of social class or race and is only partly due to differences in the ability of the students they tend to attract.*

* Although not reported here, even when both ability and whether or not students before leaving high school were planning to attend a four-year college are simultaneously controlled, the graduation rates for four-year college entrants were still twice as large (on the average) as those for two-year college entrants.

Lastly, do the effects of race, SES, or ability (discussed in section IV.A) on college attrition differ at two-year and four-year institutions? Looking first at race, it can be concluded that whether students attended a two- or four-year institution has no bearing on race differences in dropout rates. As noted earlier, both blacks and Hispanics, as a whole, are somewhat more likely to drop out of college than whites. The margin of difference between whites and minorities (about 10 to 12 percentage points) was almost exactly the same for students who had enrolled in two-year as in four-year institutions.

The effects of SES on dropout also do not appear to be any different whether a student initially enrolled in a two- or four-year college. In junior and community colleges the percentage point difference in the dropout rates for students from the lowest and highest SES quartiles was 18.2, while in the four-year institutions the percentage point difference between the same two SES groups was 18.0. (See Table 3.2 in Appendix C.) In other words, the disadvantages generally attached to being from a lower class background, in terms of attrition, are essentially the same for both two-year and four-year college entrants.

Is ability as strong a predictor of college attrition or retention for students who entered two-year institutions as it is presumed to be for those who entered four-year colleges? The average percentage difference in dropout between students in the lowest and highest ability quartiles in either two-year or four-year colleges did not really differ, the figures being 13.8 and 13.0, respectively. (See Table 3.2 in Appendix D.) Thus, just as in the case of race and social class, the power of the measured ability of students to predict college dropout is remarkably independent of the type of institution at which they initially enrolled.

C. Dropouts Who Return

Thirty percent of all students who were classfied as dropouts sometime between 1973 and 1975 had returned to college by 1976. A somewhat higher rate of return, 35 percent, exists for those who had entered college in 1972 and dropped out. (The 1972 entrants who dropped out early naturally have had more time in which to return.) This section focuses mainly on all dropouts before 1975, irrespective of when they entered college or when they dropped out. It should be noted, however, that most dropouts who by 1976 had returned did so just one year after leaving college. The rate of

return declined from 22 percent after being out one year to 7 percent after being out two years.

In the aggregate, race made no difference on who came back. The rate of dropouts who returned was 30 percent for blacks and 31 percent for whites. There also was not much but some difference between the sexes, with males (of all races) somewhat more likely to return than females. The return rate was 33 percent for males and 28 percent for females. There is a strong chance, however, that the sex difference will become larger over time, with more males than females coming back to college. Our reasoning is based partly on past studies but mainly because it is commonly assumed among even this generation that when child-bearing begins the female will be more likely than the male to stay home to rear the children and not go back to college.

The main differences between who returns and who does not are who goes where, SES, and ability. Whereas the return rate by 1976 for those who originally entered four-year colleges was 38 percent, it was 26 percent for those who had entered junior and community colleges (a 12 percentage point difference). The two-year versus four-year difference in return rates declines somewhat but does not totally disappear when aptitude and SES are controlled. (See Table 3.4 in Appendix C.) Within every SES by ability group (when cross-classified), dropouts who had entered junior and community college were less likely than their counterparts from four-year colleges to have returned by 1976. In other words, where students started out in college continues to make a difference in the long run and this fact is partly, but not entirely, due to either ability or SES differences in who goes where to college.

In the aggregate, 40 percent of the dropouts in the highest SES quartile returned to college in comparison to 27 percent of those in the lower SES quartile. Similarly, 41 percent of the dropouts in the higher ability quartile returned in comparison to 23 percent of those in the lower ability quartile.

Because ability and SES are so highly correlated, it again is necessary to examine the "crosstabs." Which of these background variables really is the determining factor in who returns? It appears mainly to be ability (see Table 5). Only for students in the highest ability group does coming from an upper rather than a lower SES background make much difference, yet it is an important difference (21.6 percentage points). For all

other dropouts (i.e., those in the lower and middle ability quartiles), social class made essentially no difference at all in predicting who returned to college.

Table 5.--The return rates of dropouts, by SES and ability

SES quartiles	Ability quartiles			Difference between the lowest and highest quartiles
	Low	Middle	High	
Low	25.7 * (218)	29.3 (246)	30.3 (108)	4.6
Middle	19.9 (246)	24.0 (712)	34.6 (431)	14.7
High	24.1 (74)	33.3 (406)	51.9 (378)	27.8
Difference between the lowest and highest quartiles	-1.6	4.0	21.6	

* The number of cases in each group upon which the weighted percentages are based are given in parentheses. Other tabulations on dropouts who return can be found in Tables 3.3 and 3.4 in Appendix C.

Ability, on the other hand, continued to be a fairly strong predictor in most cases even when social class is controlled. The biggest difference is found among students in the upper SES quartile. In this group, about twice as many dropouts in the upper ability quartile returned to college than did those in the lower ability quartile.

One last factor to be considered in this section is college grades, which is commonly assumed to be an important determinant of who returns after dropping out. Using data only on those who entered as undergraduates in 1972 and their responses to a "letter grade" item for courses they had taken up through October 1973, the results are not exactly as expected. The rates of return to college for different groups of dropouts based on college grade averages are as follows:

Half Bs and As or better . . . . . 34% (n=720)
Mostly or at least half Bs . . . . . 31% (n=1749)
Mostly Cs . . . . . 29% (n=751)
Half Cs and Ds or below . . . . . 31% (n=352)

As the figures in parentheses show, most dropouts actually were doing rather well in college, i.e., most had better than a C average. However, doing very well or very badly made almost no difference at all in who returned. Since ability is a fairly strong predictor of who returns and college grade performance is related to ability, then why those dropouts who were doing so poorly in college were just about as likely to come back as those who were doing very well remains unknown.

V. GRADUATION ON SCHEDULE

As of October 1976, 15 percent of the entire High School Class of 1972 cohort had received Bachelor's degrees or had bypassed a four-year degree late in their undergraduate careers in order to enroll in graduate or professional school (about one-half of one percent). As noted in the last section, the graduation rate represents 36 percent of all students who entered academic programs in college in 1972.

We also earlier reported that 27 percent of the 1972 entrants were still pursuing a college degree in October 1976, including both those who had been in continuous attendance and those who had dropped out and returned. When looking at the total cohort, the proportion currently enrolled is somewhat larger due to the addition of delayed entrants. In other words, compared to the fact that 15 percent of the cohort graduated on schedule, 16 percent were still enrolled as undergraduates in October 1976, many of whom no doubt will eventually graduate.

Since the determinants of who graduates on schedule (such as SES, race, or sex) do not really differ markedly from those who dropped out (as discussed in the last section), they will only briefly be reviewed here. (A complete set of tables 4.1 through 4.11 are given in Appendix C.) Following this review, five other topics are then discussed: (i) students who received their BA degrees ahead of schedule; (ii) students, including dropouts, who obtained two-year academic degrees (but no BA degree); (iii) students still on schedule but who had not graduated by October 1976 due to the fact that they were in a "five-year" program; (iv) academic college dropouts who had obtained some college credits but were never enrolled on any of the five October dates; and (v) the number of credit hours earned by "stopouts" and "persisters" compared to graduates.

A. Who Graduated on Schedule?

Whites were more likely than blacks or Hispanics to have obtained Bachelor's degrees by 1976, the rates for these three groups being 17 percent, 10 percent, and 5 percent respectively. As shown in Table 6, the race differences were similar for both sexes. The table also shows that in both the white and black populations females were more likely than males to have obtained a BA.

Table 6.--College attainment of the total NLS-72 cohort, by race and sex (percent)

Educational status	Blacks		Whites		Hispanics	
	Males	Females	Males	Females	Males	Females
Never enrolled	53.1	50.5	42.4	49.5	50.9	58.2
BA degree or bypass	8.3	11.3	15.8	17.6	4.9	4.5
Current undergraduate	16.4	15.6	19.7	12.4	17.5	15.3
College dropout	22.1	22.6	22.2	20.5	26.8	21.9
Totals: Percent*	99.9	100.0	100.1	100.0	100.1	99.9
Unweighted n	1002	1483	7311	7536	390	397

* Percentages are based on weighted data for students who returned all three follow-up questionnaires.

As in the earlier section on dropouts, Table 6 also indicates that about the same proportion of males and females had become college dropouts and were no longer in attendance. On the other hand, within each racial group, males were more likely than females to still be attending college in 1976 as undergraduates. Given these findings, as well as the higher proportion of males who did enroll in college and the higher proportion of male than female dropouts who eventually return, it is quite probable that the graduation rate of males in the Class of 1972 will eventually be as high or higher than that of females.

As in the cases of college dropout and return, ability not surprisingly was the strongest predictor of who graduated on schedule. Again taking the total NLS cohort as the base (denominator), with no controls for SES or

any other variables, 35 percent of the 3,669 students in the upper ability quartile had obtained a BA degree in contrast to only 2 percent of the 3,776 students in the lower ability quartile. (See Table 4.2 in Appendix C.)

The differences between ability groups are consistent and in some respects even more striking when SES is controlled, as shown here in Table 7. Among all students in the upper SES quartile in the High School Class of 1972, 46.7 percent of those in the highest compared to 2.9 percent of those in the lowest ability quartile had obtained BA's by October 1976. This is a ratio of 16 to 1. Few students in the lower ability quartile had graduated from college even though they came from "upper middle class" backgrounds.

Table 7.--Graduation rates (BA's) for the total NLS cohort, by SES and ability (percent)

SES quartiles	Ability quartiles			Difference between the lowest and highest quartiles
	Low	Middle	High	
Low	1.8 (1864)*	5.4 (1461)	19.6 (404)	17.8
Middle	2.1 (1593)	9.5 (3250)	27.4 (1635)	25.3
High	2.9 (311)	17.9 (1302)	46.7 (1630)	43.8
Difference between the lowest and highest quartiles	1.1	12.5	27.1	

* The number of cases in each group upon which the weighted percentages are based are given in parentheses. Graduation rates, by timing of the diploma, for these and other groups can be found in Tables 4.1 through 4.11 in Appendix C.

Although not nearly so important as ability, SES nevertheless does exert a strong influence on who obtained BA's by 1976. Within most ability groups, coming from the higher rather than the lower SES quartile increased the probability of going to college and graduating on schedule by a factor of about 2 or 3 to 1. The actual difference between the upper and lower

SES quartiles (see Table 7) was especially large among high school students in the upper ability quartile (27.1 percentage points).

Why is ability so important for graduation? Partly, but not wholly, because it is one of the main predictors of college grades which, in turn, affect who drops out or graduates. Restricting our attention for the moment to only those students who entered college in 1972, obtaining a BA degree by 1976 was strongly correlated with college grades. The graduation rates were 52 percent, 37 percent, 20 percent, and 9 percent, respectively, for those who had received mostly A's, B's, C's, or below during the first year of college.

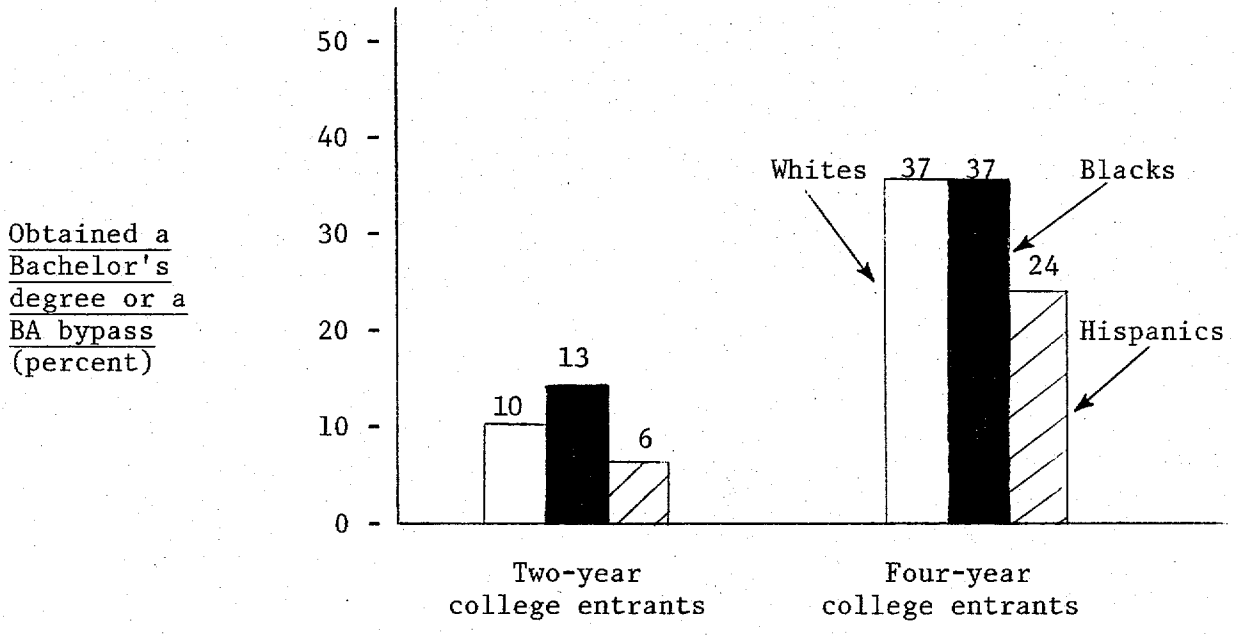
Not surprisingly, college graduation also was related to high school curriculum and to the kind of plans the students had as seniors. Thirty-one percent of all students in the academic track in high school had received BA degrees by 1976 in contrast to 5 percent of those in a "general" curriculum and 1 percent of those who had been in the vocational track. In one regard, students' plans back in high school were even more vital than expected. Both wanting and planning to attend college does not usually lead to a diploma. (Only 32% of those who stated this objective had achieved a BA by 1976.) What was surprising is that not one of the 1,713 students who as seniors in 1972 stated that they neither planned nor wanted to go to college actually obtained a BA degree. Twelve percent of this group, despite both plans and desires to the contrary, eventually did go to college anyway, but none had yet graduated. (If nothing else, in the authors' opinion, this should give us a great deal of confidence in the NLS data.)

Turning next to the effects of enrolling at two or four-year colleges, the results do not markedly differ from those presented earlier on dropout status. Starting college at a two-year institution in 1972 was not likely to lead to a BA degree by 1976. (It should be remembered that we are dealing here only with students enrolled in academic and not vocational programs.) The graduation rates for the October 1972 entrants were 13 percent and 46 percent, respectively, for the two- and four-year entrants. Of those who began at two-year colleges, the highest graduation rate was for white females and the lowest was for black males (15 versus 6 percent). Exactly the same generalization (about race and sex differences) can be made for those who began at four-year colleges. Whereas 54 percent of the white females who enrolled at four-year institutions in 1972 obtained BA's

by 1976, only 31 percent of the black males did so, again with the other groups falling in between. (See Tables 4.10 and 4.11 in Appendix C.)

The lower graduation rates of blacks were not a function of the particular type of college a student initially attended but of academic ability. Since a majority of both blacks and Hispanics who go to college fall in the middle two ability quartiles, the results for those students are presented in Figure 6. Controlling for ability (very roughly), blacks who entered two-year colleges were somewhat more likely than whites to have obtained a BA by 1976 (13 percent versus 10 percent), while 37 percent of both blacks and whites who entered four-year colleges graduated on schedule. In contrast, the figures for Hispanics (also in the middle two ability quartiles) were lower, with only 6 percent and 24 percent of those who enrolled at two- and four-year colleges obtaining BA's by 1976.

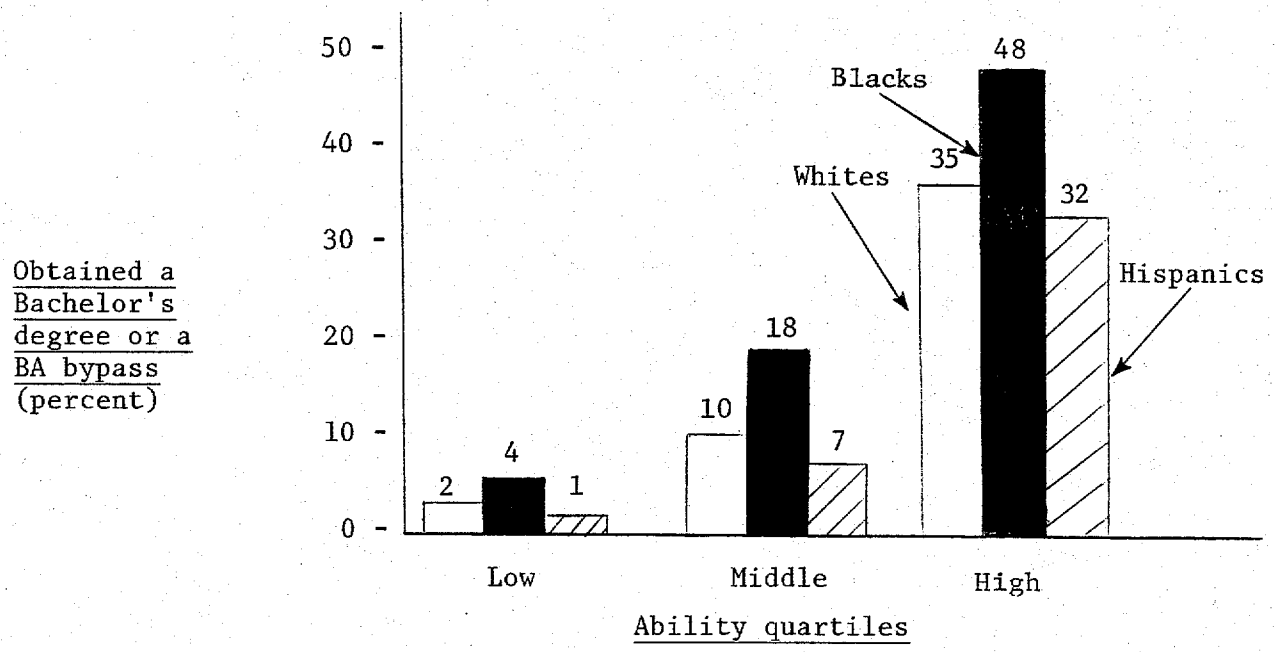
Figure 6.--Proportion of all undergraduates in October 1972 in the middle two ability quartiles who obtained a BA by October 1976, by race and type of college entered



The most dramatic data on race differences in graduation rates are presented in Figure 7. The rates for whites are identical to those reported earlier for the total population, i.e., 35 versus 2 percent for those in the upper and lower ability quartiles who received BAs. And the results (by ability) for both blacks and Hispanics are remarkably similar, e.g., 48 percent versus 4 percent of the blacks in the upper and the lower

ability quartiles received BA's. The figure also summarizes the effects of race (controlling for ability) on the educational attainment of the Class of 1972 as of 1976. Within each ability group, blacks were markedly more likely than whites to have obtained a Bachelor's degree. For example, among those in the two middle ability quartiles, 18 percent of the blacks and only 10 percent of the whites had received a BA. Hispanics, in contrast, were consistently less successful than both whites and blacks, in all ability groups.

Figure 7.--Graduation rates (BAs) for the total NLS cohort, by race and ability



B. The Very Early Graduates

Of those who by October 1976 had received BA degrees (not including those who bypassed the BA in order to enroll in graduate or professional school), 76 percent obtained the BA exactly on schedule in May or June of 1976. Another 13 percent had received their degrees before that date, while the remaining 11 percent received them after June 1976 (but no later than October 1976).

It certainly is quite possible for students to graduate ahead of schedule, either by taking extra heavy course loads some semesters or by enrolling in summer school. However, it is unclear why 13 percent of all degree holders by 1976 were inclined or managed to do so. Based on the tables in Appendix C, this does not appear to be related to socioeconomic

background, race, or even ability. Yet it is related to sex. Of all students who had graduated by October 1976, 8 percent of the men compared to 18 percent of the women obtained their BA some months ahead of the majority.

C. Holders of Two-Year Degrees

Also to be found in Appendix C (Tables 5.1-5.7 and 5.9) are the proportions of dropouts and of those still attending college who obtained two-year academic degrees (or diplomas), but only if they had not obtained a BA degree. Fifteen percent of all college dropouts (no longer enrolled) had received two-year degrees, while 13 percent of those still seeking a BA had done so. Not surprisingly most two-year academic degrees were obtained by students who initially enrolled in two-year institutions. Of the current undergraduates (1976) who had not yet obtained a BA but who began in 1972 at two-year colleges, 41 percent had received a two-year diploma sometime between 1974 and 1976. The comparable figure for those who started at four-year colleges and were still in attendance somewhere was 4 percent.

A similar pattern is found among the dropouts. Of those no longer enrolled in 1976 (and having no BA degree), 23 percent of those who started in 1972 at a two-year college had obtained a two-year diploma in contrast to only 6 percent of those who began their undergraduate careers at four-year institutions.

The fact that so many more of the "dropouts" who began at two-year colleges had received a two-year diploma than those who began at four-year colleges is perhaps one positive feature of enrolling in a junior or community college. As of October 1976, 60 percent of those who entered two-year institutions in 1972 were no longer enrolled anywhere and had not obtained BA degrees, compared to 27 percent of those who entered four-year institutions. However, as just noted, about four times as many in the first of these two groups had received diplomas. In other words, although the two-year college entrants are much more likely to become "permanent dropouts" (as defined here) than are their classmates who entered four-year colleges, many of them at least received a two-year degree before stopping.

To view the matter another way, look at the total proportion of both types of degree holders as of October 1976 in each group who entered college in 1972:

	Two-year college entrants	Four-year college entrants
BA degree holders	13.0%	45.8%
Two-year diplomas	25.0	2.6
No degree or diploma	62.0	51.6
	100.0%	100.0%
	(n=2335)	(n=5503)

In this light, the two-year entrants obviously obtained fewer degrees or diplomas of some kind than did the four-year college entrants, but not overwhelmingly so (38 percent versus 48 percent). Moreover, an identical proportion (27 percent) in each group of two- and four-year college entrants in 1972 were still enrolled and pursuing academic degrees in 1976. (See Tables 4.10 and 4.11 in Appendix C.) However, as to be shown in Section V.F, even among these persisters, the two-year entrants had earned fewer credit hours by 1976 than the four-year entrants.

In summary, starting college at a two-year institution may not be quite as unfortunate as discussed in earlier sections of this report, but that really depends on the value of a two-year diploma. At this stage in the NLS survey we know almost nothing about how important such a degree has been in the occupational careers of these students, which is a question that later needs to be answered when data from the fourth follow-up survey conducted between 1979 and 1980 are ready to be analyzed.

D. Students in Five-Year Programs

One-half of one percent of the total cohort in the NLS were still attending college in October 1976 as undergraduates and had not obtained a BA because they claimed that they were in a five-year program. Although the number is small, it does represent 3 percent of all persons still enrolled as undergraduates and 5 percent of those who entered four-year colleges in 1972 and were still enrolled. Not until the fourth NLS follow-up will we learn how many of these students actually graduated.

Who are they? In terms of the various background measures examined in this report, only one stands out. Those still enrolled in five-year programs (as a proportion of those who were either in these programs or had graduated by 1976) were predominantly males by a factor of over two to one. In all probability this reflects the disproportionate number of males who usually enroll in an engineering curriculum and the fact that five-year programs in this area are not uncommon.

E. Non-October Enrollments

In all of the preceding sections of this report, college enrollments were uniformly measured as of each October, from 1972 through 1976. It is important to recognize that some students in the High School Class of 1972, not surprisingly, were never enrolled in any fall term but went to college for a brief period of time during some other part of the year, such as for a winter, spring, or summer term. Given the actual number, however, it is not a serious problem.

Four different criteria were used in this report to define such a population. As of October 1976, if a student (i) had indicated having been enrolled at some time in a college program, (ii) had not yet received either a two- or four-year degree, (iii) was not enrolled currently or on any of the other October dates, and (iv) had earned some number of credit hours, then the student was classified as a non-October enrollment. These qualifications were met by 0.8 percent of the total cohort, or about 4 percent of all students classified as academic college dropouts.

Who these students are or why they enrolled for only brief periods in the "off season" is largely unknown. They were very much like other students who had gone to college and had dropped out in terms of sex, SES, race, or ability. The only distinguishing characteristic we found was the fact that they were about three times more likely than other college dropouts to have been enrolled in either a general or vocational program (rather than an academic program) in high school.

F. Credit Hours Earned

As stated above, this report has been based largely on enrollment data each October from 1972 through 1976. Used above to identify non-October enrollments, the number of credit hours earned also can be used as a measure of the general progress of most students through college. (See Appendix D-V on how this variable was constructed.) As shown in Table 8, for example, the number of credit hours earned by students who had obtained a BA by October 1976 did not differ appreciably between those who started out at two-year or four-year colleges. The numbers (based on a semester hour rather than a quarter hour system) were 129.9 and 127.6, respectively.

However, among all non-degree holders, those who started out at junior or community colleges consistently earned fewer credit hours than those who

originally entered four-year colleges. For example, the "persisters" who entered college in 1972, never dropped out (for a full year), and were still enrolled in October 1976, needed, on the average, about 21 to 27 credit hours to graduate--the higher figure being for those who started out at two-year colleges. (One semester typically equals 16 credit hours.) In contrast, the "stopouts" who entered in 1972 but dropped out and returned still needed, on the average, about 47 to 66 credit hours to graduate (the equivalent of 3 or 4 semesters)--the higher figure again being for those who began at two-year colleges.

Table 8.--College profile of the NLS-72 cohort as of October 1976

	Dropouts[1]	Stopouts[2]	Persisters[3]	Graduates[4]	Subtotals %	Subtotals Ns	Weighted % of total
Entered college in 1972							
Two-year colleges							
Percent	60.1	10.7	15.9	13.3	100.0	2335	12.3
Credit hours[5]	50.5	62.1	100.8	129.9			
(n)[6]	(804)	(246)	(357)	(312)		(1719)	
Four-year colleges							
Percent	26.6	8.6	18.7	46.2	100.1	5503	28.4
Credit hours	59.6	75.3	106.5	127.6			
(n)	(985)	(452)	(1032)	(2507)		(4976)	
Subtotal[7]	36.9	9.2	17.9	36.1	100.1	7973	41.4
Delayed entrants							
Two-year colleges							
Percent	53.4	5.0	40.7	0.9	100.0	942	5.1
Credit hours	33.0	46.1	37.1	112.2			
(n)	(366)	(50)	(379)	(9)		(804)	
Four-year colleges							
Percent	38.6	6.9	45.9	8.6	100.0	904	4.8
Credit hours	37.1	50.4	60.8	125.2			
(n)	(288)	(58)	(401)	(70)		(817)	
Subtotal	46.5	5.9	42.7	4.9	100.0	1889	10.1
Never attended an academic program in college						9153	48.6
Grand totals						19015	100.1

[1]Dropouts are students who entered academic programs in college, left before obtaining a Bachelor's degree, and no longer were enrolled as of October 1976.

[2]Stopouts are dropouts who returned and were still enrolled as of October 1976.

[3]Persisters did not dropout but were still working toward a Bachelor's degree as of October 1976.

[4]Graduates include holders of Bachelor's degrees as well as those who bypassed the degree and entered graduate or professional school.

[5]Credit hours is the average number earned as of October 1976, based on a semester system.

[6]The number of cases (n) upon which the average credit hours is based is given in parentheses. Due to missing data, the n is considerably lower than the number upon which the percentages are based (see subtotals for comparison).

[7]Row subtotals for both the 1972 and delayed entrants are larger than the sum of figures for two-year and four-year entrants since they include cases for whom the type of college is unknown.

VI. SUMMARY

Data from the 1976 follow-up do not differ significantly from earlier NLS reports on the college-going and attrition rates of the High School Class of 1972, including who attended two- or four-year colleges. The main value of this report is the detailed analysis of delayed entrants, part-time students, dropouts who returned to college, and those who graduated on schedule.

At each point in the college attainment process we tried to consistently report differences in the outcomes for different types of students by socioeconomic status, race, sex, and ability. In almost all instances, we discovered that the main predictor of who enrolled and succeeded in an academic program in college was ability. The relationship to ability was so strong that it hardly needs repeating. Therefore, we conclude this report with separate summaries of SES, race, and sex differences beginning with first-time enrollments in 1972 and ending with those who by 1976 had obtained a Bachelor's degree. However, before doing so, a brief statement of our findings on attendance at two- versus four-year colleges is warranted since it also has such a marked impact on who eventually graduated.

Enrolling in an academic program in a two-year instead of a four-year college has strong consequences that are only partly explained by differences in the ability of students who attend different types of colleges. For example, look just at students in the upper ability quartile (from Tables 4.10 and 4.11 in Appendix C). If one of these students attended a four-year college in 1972, the chance of graduating by 1976 was 54 in 100. However, if the students enrolled instead at a two-year college, the chance of graduating on schedule with a BA was only 18 in 100, thus a ratio of exactly three to one in favor of attendance at a four-year institution for students of comparable (and high) ability. The NLS data also demonstrate that the disadvantages of attending a two-year institution are almost wholly unrelated to social class or race. That is, the margin of difference in the graduation rates of two- and four-year entrants was roughly the same for each SES group and each race.

These findings on institutional type are central in this report and deserve further study. We now turn to our summary of SES, race, and sex effects in the attainment process.

A. The Effects of Social Class

At virtually every stage in the educational cycle, the socioeconomic background (SES) of most students has a significant impact. Much but not all of the effects of SES are due to the fact that SES is correlated with academic ability, as measured by the NLS tests administered when the cohort was still in high school. Controlling for ability, students who came from higher SES backgrounds were about two times more likely than those from lower SES backgrounds to attend college immediately after finishing high school or, if not then, to enroll one to four years later as a delayed entrant. Social class also had some but much less effect on where a student went to college. Only among the higher ability students who enrolled in college in 1972 did coming from a high SES background tend to keep a student from having to start at a two-year instead of a four-year institution. If a college entrant was of average or lower ability or was a delayed entrant, then SES made little difference on where he or she initially enrolled.

Once in college, social class continues to have a bearing on a student's educational progress. For example, it appears to play a part in whether or not a student attends full- or part-time, the latter occurring somewhat more frequently among the lower SES. More important, SES plays a significant part in who drops out of college before graduating. In all ability groups, coming from a lower class background increased the probability of becoming a dropout, a fact that was as true for students who initially enrolled at four-year colleges as those who went to a two-year college. Social class also predicts who returned to college after dropping out; however SES had a positive impact only on the return rates of students in the upper ability quartile.

Most of the above facts have an obvious bearing on who graduated with a Bachelor's degree in 1976, since obtaining a degree on schedule depends on enrolling shortly after high school, avoiding (if possible) going to a two-year college, and not dropping out (all of which were at least partly related to SES). When added together (and not controlling for ability) the impact of SES looks very strong, with 31 percent of all high school graduates in the upper SES quartile in the total NLS cohort obtaining a BA degree by 1976 compared to only 6 percent of those in the lower quartile (a

ratio of about five to one). Of course, much of this SES effect is not "direct" but is due to the "indirect" influence of SES mediated through ability. When controlling for ability, the SES factor diminishes but nevertheless remains strong. Students from higher rather than lower class backgrounds, within ability groups, were still two to three times more likely to have obtained a college degree.

B. The Effects of Race

According to recent reports from the Bureau of the Census, the proportion of the U.S. population aged 18 and 19 who currently are enrolled in school or college is now slightly higher for blacks than whites but in 1972 the situation was just the reverse. Whereas 43 percent of blacks in that age group were enrolled in school in 1972, 47 percent of the whites were. These Census figures on race differences in the 18 to 19 year-old age cohort in 1972 are basically consistent with the NLS data, which found that 47 percent of the blacks compared to 53 percent of the whites in the High School Senior Class of 1972 had attended college by 1976. In other words, unlike more recent cohorts, blacks were still going to college at a rate lower than whites back in 1972.

In other respects, the differences between races in the NLS were mixed in the college attainment process. For example, although whites were more likely than blacks to have entered college immediately after high school, blacks were more likely than whites to enter later (the delayed entrants). Also, NLS blacks who went to college were somewhat more likely than whites to attend four-year instead of two-year institutions. And, in terms of who enrolled part-time or full-time each year, the results for blacks and whites did not consistently differ over time.

On the other hand, blacks did drop out of college somewhat more often than whites. But, there was essentially no difference between these groups in the percentage who later returned. Nevertheless, due both to the higher attrition rate of blacks and to the fact that fewer blacks than whites enrolled immediately after high school, the proportion in the total NLS cohort who had received a BA degree by 1976 definitely favored the whites (17 percent, versus 10 percent for the blacks). This race difference for this cohort is not likely to completely disappear, although it is likely to decline somewhat in the next few years due to three factors just mentioned. That is, more blacks than whites were delayed entrants, blacks were just as

likely as whites to come back to college if they dropped out, and more blacks than whites tended to avoid two-year institutions--all of which in the long run are assets when considering the number who eventually will graduate.

One final note on race differences. Just as in the case of social class differences in educational attainment, it often is assumed that past tendencies of blacks to achieve less than whites do not really have much to do with measured ability but are due to more subtle forms of environmental disadvantage, such as motivation, social labeling, family income, etc. As summarized earlier, although part of the negative effects of coming from a lower class background can be explained by the differences between students in ability, even when ability is controlled, low SES still had a significant detrimental effect on students throughout the educational cycle examined. However, the same generalization cannot be made about race differences (with one exception). In every instance when we controlled for ability, the black disadvantage did not just disappear, it was sharply reversed (as shown graphically in Figures 2, 3, 5, 6, and 7). What this means for educational policy no doubt is open to serious debate.

The one exception (and not much discussed earlier) is the quite different pattern for Hispanics who were less likely than middle class whites to attend college and graduate. Unlike blacks when ability was controlled, Hispanics still fell below (not above) whites on most outcome variables. The results are best summarized in Figure 7, which shows Hispanics to have lower graduation rates than whites in each ability quartile. In other words, much like lower class whites but unlike blacks, there must be background factors other than ability that explain why more Hispanics did not obtain a college degree by 1976.

C. The Effects of Sex

Census studies in recent years have been showing a slight rise in the proportion of females and a slight fall in the proportion of males aged 18 and 19 in the U.S. population attending school or college. In fact, the rates are now almost equal between the sexes. However, back in 1972, both the Census and the NLS showed not a large but certainly a consistent difference favoring males. Fifty-four percent of the males compared to 48 percent of the females in the NLS High School Class of 1972 had attended an academic

program in college by 1976. The differences between the sexes also tended to vary in other matters, like who dropped out of college and who returned, and they varied by race.

For example, although males were more likely than females to enroll in college if they were white, among blacks the situation was reversed (more females than males enrolling in college). This generalization applies to both first-time enrollments in 1972 and to the delayed entrants.

On the other hand, sex was unrelated to who attended two-year instead of four-year institutions; only slightly related to whether students attended full- or part-time (females somewhat more likely to attend part-time); unrelated to who dropped out of college; and somewhat related to whether or not a dropout returned (the rate of return being higher for males).

In the aggregate, both white and black females were more likely than their male counterparts in the Class of 1972 to have graduated on schedule. However, as discussed earlier in this report, given the higher proportion of males who enrolled in college (at least among whites) and the somewhat higher proportion of male dropouts of both races who returned, the graduation rate of males eventually is likely to be as high as or exceed that of the females. This and other questions raised in this report hopefully will be answered when data from the fourth follow-up survey, conducted between 1979 and 1980, are analyzed.

APPENDIX A
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BIBLIOGRAPHY

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APPENDIX B

SPECIFICATION OF CLASSIFICATION VARIABLES

SPECIFICATION OF CLASSIFICATION VARIABLES

Five classification variables, used to define basic subpopulations of interest, are sex, high school program, race, ability, and socioeconomic status. The second follow-up survey included an effort to collect basic classification information which had been reported as missing in prior NLS Capsule Descriptions. Significant reductions in missing data were achieved.

Sixteen sample members were omitted from sex group comparisons because of missing classification data. High school program is defined by three categories: general, academic, and vocational-technical (agricultural occupations, business or office occupations, distributive education, health occupations, home economics occupations, and trade or industrial occupations). The classification was based upon the student's own indication of his or her high school curricular program. If the student did not provide this information, the Student School Record Information Form, completed by the Survey Administrator, was used as a backup source of data. Twenty-seven respondents could not be classified in this respect, and they were excluded from analyses involving high school program group comparisons. Ethnicity (the race variable) consisted of four categories: white, black, Hispanic, (i.e., Mexican-American or Chicano, Puerto Rican, and other Latin American origin), and other (Oriental, American Indian, etc.). Ethnic codes were missing from 19 sample members. For purposes of these analyses, results were reported separately for whites, blacks, and Hispanics. The remaining category, a residual one, was too heterogeneous in ethnic mixture to allow for meaningful separate analyses and reporting. The Hispanic group was relatively small (n = 901) and posed sample-size problems for some of the analyses, but it was felt that this group was homogeneous enough to allow for useful analyses.

The general academic ability index was derived from four base-year "Test Book" scores: vocabulary, reading, letter groups, and mathematics. Factor analysis of the test scores revealed a basis for constructing a composite score measuring general ability by forming an equally weighted linear composite of these four tests. Each test added to the composite was standardized to a mean of 50 and a standard deviation of 10. This summed continuous ability score was then classified into a high, middle, or low category depending upon whether the score was in the highest, middle two,

or lowest quartile. The cutting points for defining these quartiles were based upon a weighted estimate of the test score composite standard deviation and the assumption that the weighted frequency distribution was normally distributed. However, because low socioeconomic students were oversampled and socioeconomic status (SES) is correlated with ability, more than 25 percent of the sample members fell into the lowest quartile of the ability composite. This is because the weighted estimate of the quartile takes into consideration that low SES (and low-ability) students were oversampled and gives an estimate of the population distribution parameters for the senior class of 1972. However, since the sample was overrepresented with low SES (and low-ability) members, it would be expected that more members of the sample itself would be in the lowest quartile. Finally, a substantial number of sample members (6,180) did not have test scores. Most of these sample members were from the "resurvey" group who did not originally participate during their senior year when testing was conducted in the schools.

The SES is another derived index. This index was based upon a composite score involving five components: father's education, mother's education, parental income, father's occupation, and a household items index. These components were first subjected to a factor analysis that revealed a common factor with approximately equal weights for each of the five components. A continuous measure of SES was then computed for each respondent by averaging the standardized components. The continuous SES score was then assigned to a high, middle, or low category depending on whether it fell in the highest quartile, middle two quartiles, or lowest quartile. The cutting points for the quartiles were based upon the population SES distribution, estimated by using sample weights. Since schools located in low-income areas and schools with high proportions of minority group enrollments were oversampled, more than 25 percent of the sample members fell into the lowest quartile. There were 205 individuals who could not be classified by SES.

APPENDIX C
CROSSTABULATIONS

CROSSTABULATIONS

The following tables are based on weighted data from NLS students who returned all three follow-up questionnaires, with a total n in most situations of 19,015 cases. In some instances, such as when controlling for ability or a student's educational plans when still in high school, the total n is somewhat smaller than this due to missing data in the base-year survey.

On occasion the number in a subgroup, such as Hispanics in the higher ability quartile who went to college (see Table 1.2), is below 20. In all such instances, the number rather than the percentage of students in each category of the dependent variable is given. For clarification, these numbers are always presented in parentheses.

Table 1.1.--First-time enrollments from 1972 through 1976 by sex, race, SES, ability, high school curriculum, and college plans

Groups	Time of first enrollment						Totals	
	Never enrolled**	1972	1973	1974	1975	1976	Percent*	Unweighted n
Total	48.6	41.3	3.7	2.7	2.2	1.5	100.0	19015
Sex								
Males	45.6	43.2	4.2	3.3	2.2	1.5	100.0	9164
Females	51.5	39.5	3.2	2.1	2.2	1.5	100.0	9851
Race								
Blacks	53.3	33.7	4.4	3.9	2.8	2.0	100.1	2485
Whites	47.2	43.1	3.7	2.5	2.1	1.4	100.0	14847
Hispanics	55.9	32.4	3.0	2.8	3.5	2.4	100.0	787
Other	56.7	33.2	3.0	3.9	2.1	1.0	99.9	893
SES								
Lowest quartile	69.3	21.9	2.5	2.3	2.2	1.7	99.9	5344
Middle quartiles	53.2	36.6	3.8	2.7	2.3	1.5	100.1	9141
Highest quartile	18.7	70.3	4.7	3.0	2.0	1.3	100.0	4475
Ability								
Lowest quartile	75.9	15.7	2.6	2.4	2.1	1.4	100.1	3776
Middle quartiles	49.6	38.8	4.1	2.9	2.8	1.8	100.0	6014
Highest quartile	19.0	72.0	4.3	2.5	1.4	0.8	100.0	3669
High school curriculum								
General	63.4	25.1	3.5	3.1	3.2	1.8	100.1	6083
Academic	19.5	70.4	4.6	2.8	1.6	1.2	100.1	8178
Vocational	79.7	12.0	2.6	2.1	2.0	1.7	100.1	4622

(continued)

* Percentages are based on weighted data for students who returned all three follow-up questionnaires.

** Includes some students (less than 1 percent of the total sample) who attended college for a short period of time but were not enrolled any October between 1972 and 1976.

Table 1.1.--First-time enrollments from 1972 through 1976 by sex, race, SES, ability, high school curriculum, and college plans--Continued

Groups	Time of first enrollment						Totals	
	Never enrolled	1972	1973	1974	1975	1976	Percent*	Unweighted n
Educational plans after high school**								
Neither planned nor wanted to attend college	89.4	3.5	2.3	1.5	2.4	1.0	100.1	1713
Wanted but did not plan to attend	75.9	9.1	3.6	4.2	4.3	2.9	100.0	1124
Planned but did not want to attend	53.9	35.9	3.9	3.3	0.8	2.3	100.1	204
Both wanted and planned to attend	13.8	76.4	4.4	2.7	1.6	1.0	99.9	5582
Race by sex								
Black males	55.0	32.7	3.7	5.2	1.7	1.6	99.9	1002
Black females	51.9	34.4	4.9	2.9	3.6	2.2	99.9	1483
White males	43.8	45.0	4.4	3.1	2.2	1.5	100.0	7311
White females	50.8	41.1	3.0	1.8	1.9	1.4	100.0	7536
Hispanic males	52.0	35.8	3.4	3.5	2.9	2.4	100.0	390
Hispanic females	60.1	28.8	2.7	2.1	4.0	2.3	100.0	397
Race by SES								
Lowest SES quartile								
Blacks	60.9	25.9	3.3	4.0	3.2	2.6	99.9	1570
Whites	73.7	19.6	2.2	1.5	1.8	1.2	100.0	2940
Hispanics	60.4	28.1	2.5	3.1	2.9	3.0	100.0	508
Middle SES quartiles								
Blacks	44.7	42.7	6.4	3.4	1.9	0.9	100.0	766
Whites	53.6	36.4	3.7	2.6	2.2	1.6	100.1	7699
Hispanics	50.9	36.6	3.4	2.9	4.8	1.4	100.0	232
Highest SES quartile								
Blacks	21.7	64.4	3.7	5.1	4.1	1.0	100.0	134
Whites	18.3	70.8	4.7	2.9	2.0	1.4	100.1	4174
Hispanics	41.6	48.6	6.0	0.0	1.9	1.8	99.9	45

(continued)

* Percentages are based on weighted data for students who returned all three follow-up questionnaires.

** Attending refers to highest level of education "would like to attain" and "plan to attain," including anything from junior college to professional school (see BQ29A and B).

Table 1.1.--First-time enrollments from 1972 through 1976 by sex, race, SES, ability, high school curriculum, and college plans--Continued

Groups	Time of first enrollment						Totals	
	Never enrolled	1972	1973	1974	1975	1976	Percent*	Unweighted n
Ability by race								
Blacks								
Lowest quartile	65.6	22.8	3.9	3.3	2.8	1.6	100.0	1058
Middle quartiles	30.7	55.7	4.1	3.0	3.0	3.6	100.1	453
Highest quartile	8.7	80.5	5.4	4.4	0.0	1.0	100.0	59
Whites								
Lowest quartile	79.6	13.0	2.4	2.0	1.7	1.4	100.1	2090
Middle quartiles	50.9	37.8	4.1	2.8	2.8	1.7	100.1	5123
Highest quartile	19.4	71.7	4.3	2.4	1.4	0.8	100.0	3432
Hispanics								
Lowest quartile	65.9	24.8	2.6	2.2	2.9	1.6	100.0	334
Middle quartiles	44.7	46.7	2.9	1.9	2.1	1.6	99.9	198
Highest quartile	38.4	48.1	8.8	2.4	2.2	0.0	99.9	29
SES by ability								
Lowest ability quartile								
Lowest SES quartile	79.5	13.2	2.3	1.6	1.8	1.6	100.0	1864
Middle SES quartiles	77.3	14.9	2.4	2.3	1.9	1.1	99.9	1593
Highest SES quartile	53.8	30.1	4.2	5.8	4.1	2.1	100.1	311
Middle ability quartiles								
Lowest SES quartile	67.3	23.5	2.3	2.4	2.9	1.7	100.1	1461
Middle SES quartiles	53.2	35.3	4.0	2.8	2.8	1.9	100.0	3250
Highest SES quartile	24.2	61.8	6.0	3.7	2.8	1.6	100.1	1302
Highest ability quartile								
Lowest SES quartile	37.4	53.4	3.3	3.6	1.2	1.1	100.0	404
Middle SES quartiles	27.0	63.3	4.2	2.8	1.8	0.9	100.0	1635
Highest SES quartile	7.0	84.8	4.7	1.9	1.0	0.6	100.0	1630

* Percentages are based on weighted data for students who returned all three follow-up questionnaires.

Table 1.2.--First-time enrollments in October 1972 in two- or four-year colleges, by sex, race, SES, ability, high school curriculum, and college plans

Groups	Type of college			Totals	
	Two-year	Four-year	Type unknown	Percent*	Unweighted n
Total	29.6	68.6	1.8	100.0	7973
Sex					
Males	29.7	68.7	1.7	100.1	4036
Females	29.6	68.5	1.9	100.0	3937
Race					
Blacks	24.8	73.7	1.5	100.0	834
Whites	29.1	69.2	1.7	100.0	6545
Hispanics	50.0	46.5	3.5	100.0	262
Other	36.3	60.8	2.9	100.0	330
SES					
Lowest quartile	37.0	60.5	2.4	99.9	1227
Middle quartiles	34.3	63.5	2.1	99.9	3523
Highest quartile	22.5	76.4	1.1	100.0	3213
Ability					
Lowest quartile	49.2	46.3	4.6	100.1	640
Middle quartiles	38.7	59.6	1.8	100.1	2387
Highest quartile	17.9	81.3	0.8	100.0	2658
High school curriculum					
General	49.0	48.2	2.8	100.0	1569
Academic	21.9	76.8	1.3	100.0	5782
Vocational	56.6	39.5	3.9	100.0	594

(continued)

* Percentages are based on weighted data for students who returned all three follow-up questionnaires.

Table 1.2.--First-time enrollments in October 1972 in two- or four-year colleges, by sex, race, SES, ability, high school curriculum, and college plans--Continued

Groups	Type of college			Totals	
	Two-year	Four-year	Type unknown	Percent*	Unweighted n
Educational plans after high school**					
Neither planned nor wanted to attend college	75.3	20.8	3.9	100.0	59
Wanted but did not plan to attend	52.1	39.8	8.1	100.0	104
Planned but did not want to attend	62.5	37.5	0.0	100.0	70
Both wanted and planned to attend	24.4	74.4	1.2	100.0	4274
Race by sex					
Black males	27.7	70.7	1.6	100.0	315
Black females	22.8	75.8	1.4	100.0	519
White males	28.6	69.9	1.6	100.1	3401
White females	29.8	68.5	1.8	100.1	3144
Hispanic males	54.5	42.3	3.1	99.9	145
Hispanic females	44.1	51.8	4.1	100.0	117
Race by SES					
Lowest SES quartile					
Blacks	27.3	71.3	1.4	100.0	406
Whites	39.6	58.5	1.9	100.0	592
Hispanics	49.2	46.9	4.0	100.1	148
Middle SES quartiles					
Blacks	21.6	76.8	1.6	100.0	334
Whites	34.5	63.3	2.2	100.0	2936
Hispanics	49.0	48.2	2.9	100.1	90
Highest SES quartile					
Blacks	25.5	72.9	1.6	100.0	92
Whites	22.1	76.8	1.1	100.0	3009
Hispanics	57.1	39.0	3.9	100.0	24

(continued)

* Percentages are based on weighted data for students who returned all three follow-up questionnaires.

** Attending refers to highest level of education "would like to attain" and "plan to attain," including anything from junior college to professional school (see BQ29A and B).

Table 1.2.--First-time enrollments in October 1972 in two- or four-year colleges, by sex, race, SES, ability, high school curriculum, and college plans--Continued

Groups	Type of college			Totals	
	Two-year	Four-year	Type unknown	Percent*	Unweighted n
Ability by race					
Blacks					
Lowest quartile	32.0	66.1	1.9	100.0	242
Middle quartiles	18.4	79.9	1.6	99.9	251
Highest quartile	10.1	89.9	0.0	100.0	48
Whites					
Lowest quartile	55.5	38.8	5.8	100.1	281
Middle quartiles	39.9	58.3	1.8	100.0	1959
Highest quartile	17.7	81.5	0.8	100.0	2474
Hispanics					
Lowest quartile	64.5	30.2	5.3	100.0	79
Middle quartiles	52.1	45.8	2.1	100.0	94
Highest quartile	(2)	(14)	(0)	100.0	16
SES by ability					
Lowest ability quartile					
Lowest SES quartile	45.7	50.6	3.6	99.9	259
Middle SES quartiles	48.3	45.3	6.4	100.0	276
Highest SES quartile	57.2	40.5	2.2	99.9	104
Middle ability quartiles					
Lowest SES quartile	34.9	63.0	2.1	100.0	377
Middle SES quartiles	42.1	55.7	2.2	100.0	1187
Highest SES quartile	35.2	63.7	1.0	99.9	823
Highest ability quartile					
Lowest SES quartile	28.5	70.6	0.9	100.0	220
Middle SES quartiles	24.1	75.1	0.9	100.0	1050
Highest SES quartile	11.7	87.6	0.7	100.0	1388

* Percentages are based on weighted data for students who returned all three follow-up questionnaires.

Table 1.3.--Delayed entrants (first-time enrollments after October 1972) in two- or four-year colleges, by sex, race, SES, ability, high school curriculum and college plans

Groups	Type of college			Totals	
	Two-year	Four-year	Type unknown	Percent*	Unweighted n
Total	50.2	47.8	2.0	100.0	1889
Sex					
Males	48.6	49.7	1.7	100.0	1011
Females	52.2	45.5	2.3	100.0	878
Race					
Blacks	46.6	51.5	1.9	100.0	310
Whites	49.7	48.5	1.8	100.0	1392
Hispanics	70.2	29.8	0.0	100.0	98
Other	50.6	42.3	7.1	100.0	89
SES					
Lowest quartile	48.8	49.7	1.5	100.0	476
Middle quartiles	52.8	44.8	2.4	100.0	932
Highest quartile	46.3	52.1	1.6	100.0	474
Ability					
Lowest quartile	63.2	33.2	3.7	100.1	333
Middle quartiles	51.8	46.2	2.0	100.0	682
Highest quartile	32.7	65.1	2.3	100.1	334
High school curriculum					
General	58.1	40.5	1.4	100.0	676
Academic	37.2	60.7	2.1	100.0	807
Vocational	63.8	33.3	2.9	100.0	396

(continued)

* Percentages are based on weighted data for students who returned all three follow-up questionnaires.

NOTE.--Sample restricted to respondents who were not enrolled in academic programs in October 1972; delayed entrants include all first-time enrollments in academic programs between October 1973 and October 1976.

Table 1.3.--Delayed entrants (first-time enrollments after October 1972) in two- or four-year colleges, by sex, race, SES, ability, high school curriculum and college plans--Continued

Groups	Type of college			Totals	
	Two-year	Four-year	Type unknown	Percent*	Unweighted n
Educational plans after high school**					
Neither planned nor wanted to attend college	52.7	44.0	3.3	100.0	122
Wanted but did not plan to attend	49.9	48.4	1.7	100.0	157
Planned but did not want to attend	48.2	48.5	3.3	100.0	24
Both wanted and planned to attend	42.6	55.1	2.3	100.0	547
Race by sex					
Black males	43.7	54.2	2.1	100.0	116
Black females	48.6	49.7	1.7	100.0	194
White males	48.7	49.8	1.5	100.0	799
White females	51.1	46.7	2.2	100.0	593
Hispanic males	63.5	36.5	0.0	100.0	53
Hispanic females	77.8	22.2	0.0	100.0	45
Race by SES					
Lowest SES quartile					
Blacks	47.6	51.7	0.7	100.0	195
Whites	45.9	52.5	1.6	100.0	193
Hispanics	67.9	32.1	0.0	100.0	61
Middle SES quartiles					
Blacks	50.5	45.6	4.0	100.1	99
Whites	52.6	45.5	1.9	100.0	754
Hispanics	73.9	26.1	0.0	100.0	31
Highest SES quartile					
Blacks	(4)	(10)	(0)		14
Whites	46.1	52.1	1.7	99.9	441
Hispanics	(4)	(2)	(0)		6

(continued)

* Percentages are based on weighted data for students who returned all three follow-up questionnaires.

** Attending refers to highest level of education "would like to attain" and "plan to attain" including anything from junior college to professional school (see BQ29A and B).

Table 1.3.--Delayed entrants (first-time enrollments after October 1972) in two- or four-year colleges, by sex, race, SES, ability, high school curriculum, and college plans--Continued

Groups	Type of college			Totals	
	Two-year	Four-year	Type unknown	Percent*	Unweighted n
Ability by race					
Blacks					
Lowest quartile	54.1	44.7	1.1	99.9	121
Middle quartiles	40.6	57.6	1.8	100.0	63
Highest quartile	(0)	(5)	(1)		6
Whites					
Lowest quartile	67.7	29.2	3.0	99.9	155
Middle quartiles	52.6	45.4	1.9	99.9	563
Highest quartile	33.7	64.1	2.2	100.0	308
Hispanics					
Lowest quartile	66.6	33.4	0.0	100.0	38
Middle quartiles	64.1	35.9	0.0	100.0	20
Highest quartile	(1)	(4)	(0)		5
SES by ability					
Lowest ability quartile					
Lowest SES quartile	57.8	40.9	1.3	100.0	153
Middle SES quartiles	62.8	30.0	7.2	100.0	131
Highest SES quartile	74.8	25.2	0.0	100.0	48
Middle ability quartiles					
Lowest SES quartile	47.0	52.2	0.8	100.0	128
Middle SES quartiles	53.5	44.6	1.9	100.0	376
Highest SES quartile	51.3	45.8	2.9	100.0	178
Highest ability quartile					
Lowest SES quartile	13.9	83.2	2.9	100.0	38
Middle SES quartiles	34.3	63.2	2.5	100.0	164
Highest SES quartile	35.5	62.7	1.8	100.0	132

* Percentages are based on weighted data for students who returned all three follow-up questionnaires.

Table 2.1.--Full-time and part-time undergraduate enrollments, by year and type of college

Type of college		1972	1973	1974	1975	1976
Two-year colleges						
	Full-time	27.2	23.9	10.7	7.4	8.6
	Part-time	2.7	4.3	4.8	6.3	11.3
Four-year colleges						
	Full-time	67.3	68.3	79.7	78.5	65.8
	Part-time	1.3	2.7	3.9	6.3	13.4
Type of college undetermined						
	Full-time	1.4	0.6	0.8	1.3	0.5
	Part-time	0.1	0.2	0.2	0.3	0.4
Total:*	Percent	100.0	100.0	100.1	100.1	100.0
	Unweighted n	7,690	6,804	6,347	6,100	3,098

* Percentages are based on weighted data for students who returned all three follow-up questionnaires, with cases missing information on part-time or full-time status excluded.

Table 2.2.--Percentage part-time of all first-time enrollments each year, by type of college entered

Enrollment	1972	1973	1974	1975	1976
Two-year college enrollments	9.1 (2,270)*	32.9 (302)	43.2 (215)	56.5 (237)	62.6 (165)
Four-year college enrollments	1.9 (5,304)	15.5 (319)	19.1 (274)	43.9 (167)	40.0 (107)
All first-time enrollments**	4.2 (7,690)	24.5 (633)	30.2 (500)	51.1 (414)	53.7 (274)

* Figures in parentheses are the unweighted n's. Percentages of part-time students are based on weighted data for those who returned all three follow-up questionnaires.

** Totals include some cases for whom type of college is unknown.

Table 2.3.--Number of fall terms attended part-time by the number of terms enrolled

Number of terms attended part-time		Number of fall terms enrolled					All undergraduates
		One	Two	Three	Four	Five	
None*		72.0	71.1	68.5	88.8	71.8	77.4
One		28.0	18.1	20.4	7.4	19.4	16.6
Two			10.8	7.9	2.7	5.0	4.6
Three				3.2	0.8	2.1	1.0
Four					0.3	1.1	0.3
Five						0.7	0.1
Total:**	Percent	100.0	100.0	100.0	100.0	100.1	100.0
	Unweighted n	1,768	1,525	1,314	3,346	1,360	9,313

* Means full-time only

** Percentages are based on weighted data for students who returned all three follow-up questionnaires, with cases missing information on part-time or full-time status excluded.

Table 2.4.--Number of fall terms attended part-time by number of terms enrolled (October 1972 entrants only)

Number of terms attended part-time	Number of fall terms enrolled					All undergraduates
	One	Two	Three	Four	Five	
None*	91.8	78.5	69.8	89.4	71.8	82.5
One	8.2	16.7	21.4	7.0	19.4	12.6
Two		4.8	7.5	2.5	5.0	3.6
Three			1.3	0.7	2.1	0.9
Four				0.3	1.1	0.3
Five					0.7	0.1
Total:** Percent	100.0	100.0	100.0	99.9	100.1	100.0
Unweighted n	885	1,030	1,021	3,201	1,360	7,497

* Means full-time only

** Percentages are based on weighted data for students who returned all three follow-up questionnaires, with cases missing information on part-time or full-time status excluded.

Table 2.5.--Percentage part-time undergraduate enrollments, by year and background characteristics

	1972	1973	1974	1975	1976
All students	4.2 * (7,690)	7.2 (6,804)	8.8 (6,347)	12.9 (6,100)	25.1 (3,098)
Sex					
Males	3.8 (3,868)	7.2 (3,487)	8.6 (3,354)	12.4 (3,224)	22.0 (1,760)
Females	4.6 (3,822)	7.2 (3,317)	9.1 (2,993)	13.4 (2,876)	29.7 (1,338)
Race					
Blacks	4.0 (800)	8.0 (689)	8.4 (696)	14.6 (652)	23.4 (390)
Whites	4.0 (6,315)	7.1 (5,609)	8.8 (5,181)	12.3 (4,991)	25.2 (2,410)
Hispanics	7.1 (251)	10.2 (213)	13.1 (190)	24.2 (180)	33.3 (133)
Other	5.4 (322)	7.0 (291)	7.1 (278)	13.1 (275)	20.9 (165)
SES					
Lowest quartile	3.7 (1,182)	8.4 (993)	9.8 (881)	18.3 (868)	29.1 (553)
Middle quartiles	5.4 (3,376)	8.1 (2,957)	10.0 (2,706)	14.8 (2,589)	27.5 (1,340)
Highest quartile	3.0 (3,128)	6.0 (2,849)	7.4 (2,750)	9.6 (2,635)	21.0 (1,198)
Ability					
Lowest quartile	7.3 (602)	17.2 (502)	16.7 (444)	23.0 (441)	32.4 (303)
Middle quartiles	5.7 (2,311)	9.0 (2,009)	12.3 (1,815)	17.7 (1,770)	27.2 (1,040)
Highest quartile	2.3 (2,606)	4.4 (2,401)	5.1 (2,282)	8.5 (2,174)	20.7 (920)

(continued)

* Figures in parentheses are the unweighted n's. Percentages are based on weighted data for students who returned all three follow-up questionnaires.

Table 2.5.--Percentage part-time undergraduate enrollments, by year and background characteristics--Continued

	1972	1973	1974	1975	1976
High school curriculum					
General	7.1 (1,501)*	11.7 (1,218)	13.0 (1,099)	19.6 (1,117)	29.7 (745)
Academic	2.7 (5,602)	5.3 (5,086)	6.6 (4,812)	9.2 (4,542)	21.0 (2,018)
Vocational	10.5 (571)	17.7 (490)	23.4 (414)	35.2 (422)	39.2 (324)
Educational plans after high school					
Neither planned nor wanted to attend college	17.6 (58)	28.0 (61)	27.0 (55)	47.2 (78)	44.6 (65)
Wanted but did not plan to attend	15.4 (101)	21.6 (101)	19.8 (111)	32.8 (117)	41.4 (101)
Planned but did not want to attend	8.6 (67)	7.3 (40)	15.6 (38)	20.5 (33)	37.5 (27)
Both wanted and planned to attend	3.3 (4,177)	5.6 (3,756)	7.4 (3,461)	10.2 (3,254)	20.7 (1,498)

* Figures in parentheses are the unweighted n's. Percentages are based on weighted data for students who returned all three follow-up questionnaires.

Table 2.6.--Employment, marital, and residential status of part-time and full-time undergraduate enrollments and nonenrollments, by year and sex

Status	1972		1973		1974		1975		1976	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
Percent working**										
Enrolled full-time	39.0 (3,728)*	32.9 (3,662)	44.1 (3,246)	42.9 (3,079)	45.0 (3,071)	45.4 (2,728)	49.9 (2,825)	52.3 (2,499)	54.6 (1,378)	51.8 (958)
Enrolled part-time	75.7 (139)	69.7 (160)	84.4 (241)	80.1 (238)	92.9 (283)	80.2 (265)	88.2 (398)	83.1 (377)	89.5 (382)	86.2 (379)
Not enrolled	78.4 (5,124)	64.3 (5,910)	81.3 (5,445)	69.8 (6,313)	88.1 (5,809)	68.9 (6,852)	90.6 (5,935)	70.9 (6,969)	87.6 (7,389)	70.7 (8,504)
Percent married***										
Enrolled full-time			2.0 (3,089)	2.7 (2,931)	4.1 (2,934)	5.2 (2,649)			13.7 (1,366)	18.1 (953)
Enrolled part-time			8.4 (224)	15.6 (222)	16.3 (273)	19.5 (253)			25.8 (380)	31.9 (375)
Not enrolled			15.2 (4,730)	34.2 (5,645)	24.4 (5,364)	43.6 (6,512)			37.5 (7,365)	51.2 (8,483)
Percent living with parents***										
Enrolled full-time			45.0 (3,146)	38.3 (2,967)	32.0 (2,920)	25.1 (2,641)			29.4 (1,352)	27.0 (934)
Enrolled part-time			63.7 (238)	60.8 (234)	54.5 (271)	54.0 (254)			35.8 (374)	35.1 (371)
Not enrolled			58.7 (5,040)	49.3 (5,972)	47.5 (5,335)	37.9 (6,467)			31.1 (7,174)	24.5 (8,286)

* Figures in parentheses are the unweighted n's. Percentages are based on weighted data for students who returned all three follow-up questionnaires.

** Work status is based on the activity state variables ACT472-ACT476.

*** Marital and residential status are available only for the years 1973 (FQ7A, FQ4), 1974 (SQ105, SQ3), and 1976 (TQ129, TQ3).

Table 3.1.--Time of dropout for first-time enrollments in October 1972, by background characteristics

Groups	Status as of October 1976						Totals	
	First time dropped out				Continuous attendance	BA Degree or bypass*		
	1973	1974	1975	1976			%	n
Total	17.8	16.6	7.0	4.6	17.9	36.1	100.0	7,973
Sex								
Males	17.3	15.6	7.4	5.6	21.8	32.3	100.0	4,036
Females	18.3	17.7	6.5	3.6	13.6	40.3	100.0	3,937
Race								
Blacks	20.5	19.0	7.8	7.3	18.0	27.5	100.1	834
Whites	17.4	16.2	6.7	4.3	17.6	37.8	100.0	6,545
Hispanics	24.5	21.6	10.5	7.9	22.0	13.4	99.9	262
Others	15.8	17.2	8.9	5.1	21.4	31.6	100.0	330
SES								
Lowest quartile	24.9	22.4	8.0	5.6	14.7	24.4	100.0	1,227
Middle quartiles	20.4	18.4	7.6	4.7	16.7	32.2	100.0	3,523
Highest quartile	12.9	13.0	6.0	4.2	20.1	43.7	99.9	3,213
Ability								
Lowest quartile	28.9	27.8	7.7	7.2	16.8	11.6	100.0	640
Middle quartiles	21.4	19.2	7.9	5.3	20.0	26.3	100.1	2,387
Highest quartile	12.3	11.7	6.0	3.7	17.9	48.3	99.9	2,658
High school curriculum								
General	29.3	22.6	7.6	5.4	17.9	17.2	100.0	1,569
Academic	13.4	14.0	6.6	4.4	18.2	43.4	100.0	5,782
Vocational	32.0	27.0	9.1	5.1	14.5	12.4	100.1	594

(continued)

* If a student dropped out but returned and received a degree on schedule, he or she is classified as a degree holder. Also, persons are listed as "BA bypass" if they had no degree but were enrolled in October 1976 in graduate or professional school.

Table 3.1.--Time of dropout for first-time enrollments in October 1972, by background characteristics--Continued

Groups	Status as of October 1976						Totals	
	First time dropped out				Continuous attendance	BA Degree or bypass*		
	1973	1974	1975	1976			%	n
Race by sex								
Black males	21.7	20.5	5.0	7.2	21.8	23.9	100.1	315
Black females	19.6	17.9	9.8	7.3	15.2	30.1	99.9	519
White males	16.7	15.1	7.5	5.3	21.7	33.8	100.1	3,401
White fem es	18.2	17.5	5.9	3.1	12.9	42.3	99.9	3,144
Hispanic males	25.7	18.8	12.5	9.0	21.9	12.1	100.0	145
Hispanic females	22.9	25.4	7.9	6.6	22.1	15.2	100.1	117
Race by SES								
Lowest SES quartile								
Blacks	25.6	21.3	7.1	5.4	15.9	24.8	100.1	406
Whites	24.7	22.6	7.9	4.8	12.5	27.5	100.0	592
Hispanics	23.5	24.0	12.7	7.8	21.5	10.6	100.1	148
Middle SES quartiles								
Blacks	16.6	18.0	9.3	8.7	20.1	27.3	100.0	334
Whites	20.6	18.3	7.5	4.4	15.9	33.3	100.0	2,936
Hispanics	31.7	21.6	6.2	7.8	20.3	12.4	100.0	90
Highest SES quartile								
Blacks	14.0	13.4	5.2	9.8	18.3	39.3	100.0	92
Whites	13.1	13.1	5.8	4.1	20.1	43.9	100.1	3,009
Hispanics	5.4	11.0	14.4	9.0	30.3	30.0	100.1	24

(continued)

* If a student dropped out but returned and received a degree on schedule, he or she is classified as a degree holder. Also, persons are listed as "BA bypass" if they had no degree but were enrolled in October 1976 in graduate or professional school.

Table 3.1.--Time of dropout for first-time enrollments in October 1972, by background characteristics--Continued

Groups	Status as of October 1976						Totals	
	First time dropped out				Continuous attendance	BA Degree or bypass *		
	1973	1974	1975	1976			%	n
Ability by race								
Blacks								
Lowest quartile	23.4	26.3	9.0	6.8	20.3	14.3	100.1	242
Middle quartiles	18.3	15.0	9.0	8.4	17.8	31.6	100.1	251
Highest quartile	11.2	3.7	0.0	5.6	21.5	58.2	100.2	48
Whites								
Lowest quartile	32.4	28.2	6.3	6.8	14.0	12.3	100.0	281
Middle quartiles	21.9	19.7	7.5	4.8	19.9	26.1	99.9	1,959
Highest quartile	12.5	11.7	6.1	3.8	17.5	48.4	100.0	2,474
Hispanics								
Lowest quartile	32.6	29.7	8.4	9.0	18.4	1.9	100.0	79
Middle quartiles	19.3	21.2	10.4	8.6	26.6	14.0	100.1	94
Highest quartile	(1)	(1)	(1)	(0)	(4)	(9)		16
SES by ability								
Lowest ability quartile								
Lowest SES quartile	31.6	27.2	7.5	4.8	16.9	11.9	99.9	259
Middle SES quartiles	28.9	31.0	8.2	7.2	12.3	12.3	99.9	276
Highest SES quartile	24.1	21.8	6.8	12.0	25.9	9.5	100.1	104
Middle ability quartiles								
Lowest SES quartile	23.1	24.1	7.8	7.8	14.8	22.4	100.0	377
Middle SES quartiles	23.7	19.6	8.3	5.1	17.7	25.6	100.0	1,187
Highest SES quartile	17.6	16.9	7.3	4.6	25.0	28.6	100.0	823
Highest ability quartile								
Lowest SES quartile	17.0	18.6	7.4	4.4	16.0	36.6	100.0	220
Middle SES quartiles	14.9	14.4	6.9	3.7	17.7	42.4	100.0	1,050
Highest SES quartile	9.8	8.8	5.1	3.7	18.3	54.3	100.0	1,388

* If a student dropped out but returned and received a degree on schedule, he or she is classified as a degree holder. Also, persons are listed as "BA bypass" if they had no degree but were enrolled in October 1976 in graduate or professional school.

Table 3.2.--Time of dropout for first-time enrollments in October 1972, by type of college attended and other controls

Groups	Status as of October 1976						Totals	
	First time dropped out				Continuous attendance	BA Degree or bypass *		
	1973	1974	1975	1976			%	n
Total								
Two-year college	28.5	27.6	9.3	5.4	15.9	13.3	100.0	2,335
Four-year college	13.3	11.7	5.8	4.3	18.7	46.2	100.0	5,503
Race by type of college								
Two-year								
Blacks	30.8	33.9	10.4	5.5	11.5	7.9	100.0	217
Whites	28.6	26.9	9.0	5.0	16.4	14.1	100.0	1,861
Hispanics	31.2	29.9	11.4	9.1	13.7	4.6	99.9	132
Four-year								
Blacks	16.7	13.8	6.9	8.0	20.0	34.5	99.9	602
Whites	13.0	11.6	5.6	4.0	18.0	47.9	100.1	4,579
Hispanics	17.6	13.7	8.1	5.1	31.6	23.9	100.0	122
SES by type of college								
Two-year								
Lowest quartile	35.0	32.4	9.6	5.9	9.3	7.8	100.0	456
Middle quartiles	28.9	27.7	8.9	5.2	15.6	13.6	99.9	1,185
Highest quartile	24.7	24.9	9.6	5.5	19.7	15.6	100.0	691
Four-year								
Lowest quartile	18.6	15.7	6.3	5.5	18.3	35.5	99.9	745
Middle quartiles	16.0	12.8	6.7	4.5	17.3	42.6	99.9	2,268
Highest quartile	9.7	9.7	5.0	3.8	20.0	51.8	100.0	2,486

(continued)

* If a student dropped out but returned and received a degree on schedule, he or she is classified as a degree holder. Also, persons are listed as "BA bypass" if they had no degree but were enrolled in October 1976 in graduate or professional school.

Table 3.2.--Time of dropout for first-time enrollments in October 1972, by type of college attended and other controls--Continued

Groups	Status as of October 1976						Totals	
	First time dropped out				Continuous attendance	BA Degree or bypass *		
	1973	1974	1975	1976			%	n
SES by ability and type of college								
Two-year college								
Lowest ability quartile								
Lowest SES quartile	44.1	28.6	9.9	5.6	5.6	6.3	100.1	117
Middle SES quartiles	30.2	38.9	6.6	5.6	9.5	9.1	99.9	131
Highest SES quartile	26.5	25.1	7.9	11.5	25.1	4.0	100.1	54
Middle ability quartiles								
Lowest SES quartile	28.3	38.0	9.4	8.6	7.9	7.9	100.1	129
Middle SES quartiles	31.3	26.2	9.9	5.6	15.1	11.9	100.0	484
Highest SES quartile	29.3	26.5	8.4	4.2	21.3	10.3	100.0	272
Highest ability quartile								
Lowest SES quartile	23.4	40.1	9.5	5.9	13.9	7.2	100.0	57
Middle SES quartiles	24.6	22.9	8.2	6.0	21.3	17.0	100.0	244
Highest SES quartile	19.4	19.0	14.4	5.6	17.0	24.7	100.1	164
Four-year colleges								
Lowest ability quartile								
Lowest SES quartile	20.1	24.7	5.1	4.4	27.7	17.9	99.9	131
Middle SES quartiles	30.2	18.0	11.1	8.5	17.1	15.1	100.0	129
Highest SES quartiles	22.0	18.3	5.7	13.3	26.2	14.5	100.0	47

(continued)

* If a student dropped out but returned and received a degree on schedule, he or she is classified as a degree holder. Also, persons are listed as "BA bypass" if they had no degree but were enrolled in October 1976 in graduate or professional school.

Table 3.2.--Time of dropout for first-time enrollments in October 1972, by type of college attended and other controls--Continued

Groups	Status as of October 1976						Totals	
	First time dropped out				Continuous attendance	BA Degree or bypass*		
	1973	1974	1975	1976			%	n
Middle ability quartiles								
Lowest SES quartile	20.7	16.2	5.6	7.3	19.1	31.1	100.0	242
Middle SES quartiles	18.6	14.4	6.4	4.7	19.2	36.6	99.9	679
Highest SES quartile	11.5	11.8	6.6	4.9	26.3	38.9	100.0	542
Highest ability quartile								
Lowest SES quartile	13.6	9.9	6.6	3.8	17.1	49.0	100.0	161
Middle SES quartiles	11.9	11.5	6.5	3.0	16.7	50.3	99.9	796
Highest SES quartile	8.6	7.5	3.9	3.4	18.5	58.1	100.0	1,213

* If a student dropped out but returned and received a degree on schedule, he or she is classified as a degree holder. Also, persons are listed as "BA bypass" if they had no degree but were enrolled in October 1976 in graduate or professional school.

Table 3.3.--Percentage of dropouts who returned, by sex, SES, aptitude, and type of college attended, each crossclassified by race

Groups	Blacks	Whites	Hispanics	All students*
Total	29.5 (483)**	30.8 (3,113)	24.0 (182)	30.5 (3,942)
Sex				
Males	30.3 (185)	33.3 (1,616)	24.1 (102)	32.8 (1,987)
Females	28.9 (298)	27.9 (1,497)	23.8 (80)	27.9 (1,955)
SES				
Lowest quartile	33.0 (270)	25.2 (401)	24.6 (109)	26.6 (828)
Middle quartiles	25.1 (180)	25.3 (1,612)	24.9 (61)	25.7 (1,939)
Highest quartile	24.8 (30)	40.5 (1,095)	(2) (12)	40.1 (1,166)
Aptitude				
Lowest quartile	28.2 (177)	21.1 (261)	18.8 (72)	22.7 (539)
Middle quartiles	38.1 (125)	26.9 (1,142)	28.6 (53)	27.7 (1,364)
Highest quartile	(2) (5)	40.7 (866)	(1) (6)	41.3 (917)
Type of college***				
Two-year	26.1 (160)	26.3 (1,195)	20.5 (96)	26.4 (1,526)
Four-year	33.3 (208)	38.5 (1,385)	33.2 (48)	38.0 (1,699)

* Includes blacks, whites, Hispanics, and students of other racial or ethnic minorities.

** Figures in parentheses are n's upon which percentages are based, using weighted data.

*** Includes only October 1972 college entrants.

Table 3.4--Percentage of dropouts who returned, by SES and crossclassified by aptitude and type of college entered

Dropouts	Socioeconomic status (SES)		
	Lowest quartile	Middle quartiles	Highest quartile
All students	26.6 (828)*	25.7 (1,939)	40.1 (1,166)
Aptitude			
Lowest quartile	25.7 (218)	19.9 (246)	24.1 (74)
Middle quartiles	29.3 (246)	24.0 (712)	33.3 (406)
Highest quartile	30.3 (108)	34.6 (431)	51.9 (378)
Two-year college entrants**			
Aptitude			
Lowest quartile	18.5 (93)	18.8 (99)	21.0 (32)
Middle quartiles	27.7 (100)	22.6 (318)	33.7 (174)
Highest quartile	26.0 (40)	34.2 (133)	34.8 (86)
Four-year college entrants**			
Aptitude			
Lowest quartile	36.9 (57)	23.3 (75)	24.5 (22)
Middle quartiles	31.3 (106)	31.5 (261)	36.1 (167)
Highest quartile	33.5 (49)	36.3 (233)	61.7 (246)

* Figures in parentheses are n's upon which percentages are based, using weighted data.

** Includes only October 1972 college entrants.

Table 4.1.--Undergraduate degree and enrollment status as of October 1976, by sex and race

Status	Sex			Race			
	Total	Males	Females	Blacks	Whites	Hispanic	Others
A. Never enrolled	47.2	44.2	50.2	51.6	45.9	54.5	56.0
B. BA Degree or bypass							
(1) Before Oct '75	0.6	0.4	0.9	0.6	0.7	0.5	0.1
(2) Oct'75 - April '76	1.3	0.7	1.9	0.9	1.4	0.3	0.5
(3) May - June '76	10.8	10.7	10.9	6.4	11.9	2.1	8.1
(4) July - Oct '76	1.5	1.6	1.5	1.0	1.7	0.7	1.1
(5) Date undetermined	0.7	0.5	0.8	0.7	0.7	0.6	0.4
(6) BA bypass*	0.4	0.4	0.3	0.5	0.4	0.5	0.4
(subtotal).....	(15.3)	(14.3)	(16.3)	(10.1)	(16.8)	(4.7)	(10.6)
C. Current undergraduates							
(1) In 5-year programs	0.5	0.8	0.3	0.3	0.5	0.5	0.6
(2) Have 2-year degrees ...	2.1	2.6	1.7	1.1	2.2	1.8	2.5
(3) No academic degree	13.5	15.8	11.1	14.7	13.3	14.1	13.0
(subtotal)	(16.1)	(19.2)	(13.1)	(16.1)	(16.0)	(16.4)	(16.1)
D. Academic college dropouts							
(1) Have 2-year degrees ...	3.1	2.9	3.4	1.4	3.4	3.0	1.5
(2) Prior October enrollment but no degrees .	17.4	18.4	16.3	19.8	17.1	20.4	15.1
(3) Some college but no degree and no October enrollment	0.8	0.8	0.8	1.2	0.8	0.9	0.6
(subtotal)	(21.3)	(22.1)	(20.5)	(22.4)	(21.3)	(24.3)	(17.2)
Total: Percent**	99.9	99.8	100.1	100.2	100.0	99.9	99.9
Unweighted n	19,015	9,164	9,851	2,485	14,847	787	893

* Persons listed as "BA bypass" have no Bachelor's degree but are enrolled in graduate or professional school.

** Percentages are based on weighted data for students who returned all three follow-up questionnaires.

Table 4.2.--Undergraduate degree and enrollment status as of October 1976, by SES and ability quartiles

Status	SES quartile			Ability quartile		
	Low	Middle	High	Low	Middle	High
A. Never enrolled	68.1	51.6	17.6	74.7	47.9	17.9
B. BA Degree or bypass						
(1) Before Oct '75	0.3	0.4	1.5	0.1	0.3	1.4
(2) Oct'75 - April '76	0.7	1.0	2.5	0.2	1.0	2.8
(3) May - June '76	3.7	8.9	21.9	1.1	7.1	25.8
(4) July - Oct '76	0.6	1.1	3.2	0.2	1.3	3.2
(5) Date undetermined	0.2	0.5	1.4	0.3	0.5	1.3
(6) BA bypass*	0.2	0.4	0.6	0.2	0.3	0.7
(subtotal)	(5.7)	(12.3)	(31.1)	(2.1)	(10.5)	(35.2)
C. Current undergraduates						
(1) In 5-year programs	0.2	0.4	1.2	0.1	0.5	1.2
(2) Have 2-year degrees	1.0	2.2	3.1	0.5	2.7	2.6
(3) No academic degree	9.0	11.3	22.2	6.9	13.9	20.7
(subtotal)	(10.2)	(13.9)	(26.5)	(7.5)	(17.1)	(24.5)
D. Academic college dropouts						
(1) Have 2-year degrees	1.9	3.6	3.5	1.5	4.4	3.0
(2) Prior October enrollment but no degrees	13.4	17.8	20.5	13.4	19.2	18.4
(3) Some college but no degree and no October enrollment	0.7	0.9	0.8	0.7	0.8	0.8
(subtotal)	(16.0)	(22.3)	(24.8)	(15.6)	(24.4)	(22.2)
Total: Percent**	100.0	100.1	100.0	99.9	99.9	99.8
Unweighted n	5344	9141	4475	3776	6014	3669

* Persons listed as "BA bypass" have no Bachelor's degree but are enrolled in graduate or professional school.

** Percentages are based on weighted data for students who returned all three follow-up questionnaires.

Table 4.3—Undergraduate degree and enrollment status as of October 1976, by high school curriculum and educational plans

Status	Curriculum			Educational plans***			
	General	Acad.	Vocational	No-No	Yes-No	No-Yes	Yes-Yes
A. Never enrolled	62.0	18.3	78.2	88.0	73.7	51.6	12.8
B. BA Degree or bypass							
(1) Before Oct '76	0.3	1.3	0.1	0.0	0.0	0.0	1.4
(2) Oct'75 - April '76	0.5	2.5	0.1	0.0	0.3	0.3	2.7
(3) May - June '76	2.8	22.5	0.9	0.0	1.4	2.2	22.4
(4) July - Oct '76	0.6	3.0	0.1	0.0	0.1	0.3	3.1
(5) Date undetermined	0.2	1.3	0.1	0.0	0.0	0.0	1.3
(6) BA bypass*	0.2	0.7	0.1	0.0	0.1	0.4	0.7
(subtotal)	(4.6)	(31.3)	(1.4)	(0.0)	(1.9)	(3.2)	(31.6)
C. Current undergraduates							
(1) In 5-year programs	0.3	0.9	0.1	0.0	0.1	0.0	1.2
(2) Have 2-year degrees ...	1.5	3.4	0.8	0.6	0.8	1.4	3.5
(3) No academic degree	10.6	20.0	6.1	3.2	8.3	10.4	21.9
(subtotal)	(12.4)	(24.3)	(7.0)	(3.8)	(9.2)	(11.8)	(26.6)
D. Academic college dropouts							
(1) Have 2-year degrees ...	2.7	4.1	2.1	2.0	1.8	5.4	4.3
(2) Prior October enrollment but no degrees .	17.4	21.4	10.4	5.6	12.0	27.0	24.1
(3) Some college but no degree and no October enrollment	1.0	0.6	0.9	0.4	1.4	1.0	0.6
(subtotal)	(21.1)	(26.1)	(13.4)	(8.0)	(15.2)	(33.4)	(29.0)
Total: Percent**	100.1	100.0	100.0	99.8	100.0	100.0	100.0
Unweighted n	6083	8178	4622	1713	1124	204	5582

* Persons listed as "BA bypass" have no Bachelor's degree but are enrolled in graduate or professional school.

** Percentages are based on weighted data for students who returned all three follow-up questionnaires.

*** Codes: "No-No" means neither planned nor wanted to attend college.
"Yes-No" means wanted but did not plan to attend.
"No-Yes" means planned but did not want to attend.
"Yes-Yes" means both wanted and planned to attend.

Table 4.4.--Undergraduate degree and enrollment status as of October 1976, by sex by race

Status	Blacks		Whites		Hispanics	
	Males	Females	Males	Females	Males	Females
A. Never enrolled	53.1	\50.5	42.4	49.5	50.9	58.2
B. BA Degree or bypass						
(1) Before Oct. '75	0.2	0.9	0.5	0.9	0.2	0.8
(2) Oct '75 - April '76	0.3	1.4	0.8	2.0	0.5	0.2
(3) May - June '76	5.8	6.8	11.8	12.0	2.1	2.1
(4) July - Oct '76	0.7	1.1	1.8	1.6	0.7	0.6
(5) Date undetermined	0.7	0.7	0.5	0.8	0.3	0.8
(6) BA bypass*	0.6	0.4	0.4	0.3	1.1	0.0
(subtotal)	(8.3)	(11.3)	(15.8)	(17.6)	(4.9)	(4.5)
C. Current undergraduates						
(1) In 5-year programs	0.2	0.3	0.8	0.2	0.2	0.9
(2) Have 2-year degrees	0.8	1.2	2.8	1.7	2.1	1.4
(3) No academic degree	15.4	14.1	16.1	10.5	15.2	13.0
(subtotal)	(16.4)	(15.6)	(19.7)	(12.4)	(17.5)	(15.3)
D. Academic college dropouts						
(1) Have 2-year degrees	1.6	1.2	3.1	3.8	2.6	3.5
(2) Prior October enrollment but no degrees ...	19.5	20.1	18.3	15.9	23.7	17.1
(3) Some college but no degree and no October enrollment	1.0	1.3	0.8	0.8	.5	1.3
(subtotal)	(22.1)	(22.6)	(22.2)	(20.5)	(26.8)	(21.9)
Total: Percent**	99.9	100.0	100.1	100.0	100.1	99.9
Unweighted n	1002	1483	7311	7536	390	397

* Persons listed as "BA bypass" have no Bachelor's degree but are enrolled in graduate or professional school.

** Percentages are based on weighted data for students who returned all three follow-up questionnaires.

Table 4.5.--Undergraduate degree and enrollment status as of October 1976, by race by SES

Status	Lowest SES quartile			Middle SES quartiles			Highest SES quartile		
	Blacks	Whites	Hispanics	Blacks	Whites	Hispanics	Blacks	Whites	Hispanics
A. Never enrolled	59.4	72.7	58.7	42.7	52.0	50.0	20.4	17.2	39.4
B. BA Degree or bypass									
(1) Before Oct '75	0.6	0.2	0.4	0.7	0.4	0.4	0.4	1.6	1.6
(2) Oct '75 - April '76	0.8	0.7	0.5	1.2	1.0	0.0	0.9	2.6	0.0
(3) May - June '76	4.5	3.8	1.1	7.7	9.2	2.8	18.4	22.2	7.0
(4) July - Oct '76	0.4	0.6	1.1	1.5	1.2	0.0	3.6	3.3	0.0
(5) Date undetermined	0.5	0.1	0.2	0.9	0.5	1.0	2.5	1.4	1.8
(6) BA bypass*	0.3	0.1	0.2	0.8	0.4	0.4	0.4	0.5	4.1
(subtotal)	(7.1)	(5.5)	(3.5)	(12.8)	(12.7)	(4.6)	(26.2)	(31.6)	(14.5)
C. Current undergraduates									
(1) In 5-year programs	0.3	0.1	0.7	0.1	0.4	0.3	1.1	1.2	0.0
(2) Have 2-year degrees	0.9	1.0	1.6	1.2	2.2	2.5	2.0	3.2	0.0
(3) No academic degree	13.4	6.7	13.4	15.0	10.8	13.4	24.8	22.2	22.8
(subtotal)	(14.6)	(7.8)	(15.7)	(16.3)	(13.4)	(16.2)	(27.9)	(26.6)	(22.8)
D. Academic college dropouts									
(1) Have 2-year degrees	0.9	2.2	3.0	2.3	3.8	2.8	1.0	3.5	4.4
(2) Prior October enrollment but no degrees	16.9	11.1	18.1	24.9	17.4	25.6	23.6	20.5	16.6
(3) Some college but no degree and no October enrollment	1.2	0.5	0.8	1.1	0.9	0.9	0.9	0.8	2.3
(subtotal)	(19.0)	(13.8)	(21.9)	(28.3)	(22.1)	(29.3)	(25.5)	(24.8)	(23.3)
Total: Percent**	100.1	99.8	99.8	100.1	100.2	100.1	100.0	100.2	100.0
Unweighted n	1570	2940	508	766	7699	232	134	4174	45

* Persons listed as "BA bypass" have no Bachelor's degree but are enrolled in graduate or professional school.

** Percentages are based on weighted data for students who returned all three follow-up questionnaires.

Table 4.6.--Undergraduate degree and enrollment status as of October 1976, by ability quartile by race

Status	Blacks			Whites			Hispanics		
	Low ability	Middle ability	High ability	Low ability	Middle ability	High ability	Low ability	Middle ability	High ability
A. Never enrolled	64.2	29.7	7.0	78.6	49.1	18.3	64.5	43.3	34.2
B. BA Degree or bypass									
(1) Before Oct '75	0.2	1.0	0.0	0.1	0.3	1.4	0.0	0.3	6.0
(2) Oct '75 - April '76	0.2	2.6	0.0	0.2	1.0	3.0	0.2	0.4	0.0
(3) May - June '76	1.7	10.4	35.5	1.1	6.9	25.8	0.0	4.0	12.5
(4) July - Oct '76	0.4	1.9	6.0	0.1	1.3	3.1	0.4	0.4	3.4
(5) Date undetermined	0.5	1.2	4.7	0.2	0.4	1.2	0.0	0.7	10.0
(6) BA bypass*	0.5	0.6	1.9	0.1	0.3	0.7	0.3	0.7	0.0
(subtotal)	(3.5)	(17.7)	(48.1)	(1.8)	(10.2)	(35.2)	(0.9)	(6.5)	(31.9)
C. Current undergraduates									
(1) In 5-year programs	0.1	0.5	2.0	0.1	0.5	1.2	0.2	0.0	1.9
(2) Have 2-year degrees	0.8	1.7	0.0	0.3	2.8	2.6	1.1	2.7	4.5
(3) No academic degree	11.9	20.8	24.2	5.2	13.3	20.4	9.9	20.2	5.1
(subtotal)	(12.8)	(23.0)	(26.2)	(5.6)	(16.6)	(24.2)	(11.2)	(22.9)	(11.5)
D. Academic college dropouts									
(1) Have 2-year degrees	1.2	1.5	0.0	1.6	4.7	3.2	2.3	4.5	2.8
(2) Prior October enrollment but no degrees	17.5	27.5	16.9	11.9	18.6	18.4	20.1	22.3	15.3
(3) Some college but no degree and no October enrollment	0.8	0.6	1.7	0.7	0.8	0.8	0.9	0.5	4.2
(subtotal)	(19.5)	(29.6)	(18.6)	(14.2)	(24.1)	(22.4)	(23.3)	(27.3)	(22.3)
Total: Percent**	100.0	100.0	99.9	100.2	100.0	100.1	99.9	100.0	99.9
Unweighted n	1058	453	59	2090	5123	3432	334	198	29

* Persons listed as "BA bypass" have no Bachelor's degree but are enrolled in graduate or professional school.

** Percentages are based on weighted data for students who returned all three follow-up questionnaires.

Table 4.7.--Undergraduate degree and enrollment status as of October 1976, by SES by ability

Status	Lowest ability quartile			Middle ability quartiles			Highest ability quartile		
	Lowest SES	Middle SES	Highest SES	Lowest SES	Middle SES	Highest SES	Lowest SES	Middle SES	Highest SES
A. Never enrolled	78.8	75.9	52.2	65.8	51.2	23.0	36.1	25.5	6.3
B. BA Degree or bypass									
(1) Before Oct '75	0.1	0.0	0.4	0.2	0.4	0.4	1.2	0.6	2.3
(2) Oct '75 - April '76	0.2	0.1	0.4	0.6	1.0	1.4	1.9	1.9	4.0
(3) May - June '76	0.9	1.3	1.3	3.8	6.3	12.2	14.1	20.9	33.4
(4) July - Oct '76	0.2	0.2	0.2	0.6	1.0	2.7	1.1	2.3	4.5
(5) Date undetermined	0.2	0.3	0.6	0.1	0.5	0.7	0.6	1.0	1.8
(6) BA bypass*	0.2	0.2	0.0	0.1	0.3	0.5	0.7	0.7	0.7
(subtotal)	1.8	2.1	2.9	5.4	9.5	17.9	19.6	27.4	46.7
C. Current undergraduates									
(1) In 5-year programs	0.1	0.0	0.8	0.2	0.3	1.4	0.7	0.9	1.5
(2) Have 2-year degrees	0.7	0.2	1.3	0.9	2.5	5.1	2.1	3.7	1.7
(3) No academic degree	6.5	5.6	14.9	10.1	12.1	21.9	15.4	17.5	25.2
(subtotal)	7.3	5.8	17.0	11.2	14.9	28.4	18.2	22.1	28.4
D. Academic college dropouts									
(1) Have 2-year degrees	0.8	2.0	1.8	3.2	4.6	5.1	5.1	3.6	2.0
(2) Prior October enrollment but no degrees	11.0	13.3	24.8	13.7	19.0	24.8	20.4	20.2	16.1
(3) Some college but no degree and no October enrollment	0.5	0.9	1.3	0.7	0.9	0.7	0.4	1.1	0.5
(subtotal)	12.3	16.2	27.9	17.6	24.5	30.6	25.9	24.9	18.6
Total: Percent**	100.2	100.0	100.0	100.0	100.1	99.9	99.8	99.9	100.0
Unweighted n	1864	1593	311	1461	3250	1302	404	1635	1630

* Persons listed as "BA bypass" have no Bachelor's degree but are enrolled in graduate or professional school.

** Percentages are based on weighted data for students who returned all three follow-up questionnaires.

Table 4.8.--Undergraduate degree and enrollment status for all first-time enrollments in October 1972, by sex, race, SES, ability, high school curriculum and college plans

Groups	Status as of October 1976			Totals*	
	BA Degree or bypass	Current undergrads	College dropouts	%	n
Total	36.1	27.1	36.9	100.1	7973
Sex					
Males	32.3	31.6	36.1	100.0	4036
Females	40.3	22.0	37.7	100.0	3937
Race					
Blacks	27.5	27.9	44.6	100.0	834
Whites	37.8	26.6	35.6	100.0	6545
Hispanics	13.4	31.0	55.6	100.0	262
Others	31.6	32.7	35.7	100.0	330
SES					
Lowest quartile	24.4	24.8	50.8	100.0	1227
Middle quartiles	32.2	25.3	42.5	100.0	3523
Highest quartile	43.7	29.6	26.7	100.0	3213
Ability					
Lowest quartile	11.6	24.3	64.1	100.0	640
Middle quartiles	26.3	29.5	44.2	100.0	2387
Highest quartile	48.3	27.8	24.0	100.1	2658
High school curriculum					
General	17.2	27.9	54.8	99.9	1569
Academic	43.4	27.1	29.6	100.1	5782
Vocational	12.4	25.0	62.6	100.0	594

(continued)

* Percentages are based on weighted data for students who returned all three follow-up questionnaires.

Table 4.8.--Undergraduate degree and enrollment status for all first-time enrollments in October 1972, by sex, race, SES, ability, high school curriculum and college plans

Groups	Status as of October 1976			Totals*	
	BA Degree or bypass	Current undergrads	College dropouts	%	n
Total	36.1	27.1	36.9	100.1	7973
Sex					
Males	32.3	31.6	36.1	100.0	4036
Females	40.3	22.0	37.7	100.0	3937
Race					
Blacks	27.5	27.9	44.6	100.0	834
Whites	37.8	26.6	35.6	100.0	6545
Hispanics	13.4	31.0	55.6	100.0	262
Others	31.6	32.7	35.7	100.0	330
SES					
Lowest quartile	24.4	24.8	50.8	100.0	1227
Middle quartiles	32.2	25.3	42.5	100.0	3523
Highest quartile	43.7	29.6	26.7	100.0	3213
Ability					
Lowest quartile	11.6	24.3	64.1	100.0	640
Middle quartiles	26.3	29.5	44.2	100.0	2387
Highest quartile	48.3	27.8	24.0	100.1	2658
High school curriculum					
General	17.2	27.9	54.8	99.9	1569
Academic	43.4	27.1	29.6	100.1	5782
Vocational	12.4	25.0	62.6	100.0	594

(continued)

* Percentages are based on weighted data for students who returned all three follow-up questionnaires.

Table 4.8.--Undergraduate degree and enrollment status for all first-time enrollments in October 1972, by sex, race, SES, ability, high school curriculum and college plans--Continued

Groups	Status as of October 1976			Totals*	
	BA Degree or bypass	Current undergrads	College dropouts	%	n
Ability by race					
Blacks					
Lowest quartile	14.3	30.1	55.6	100.0	242
Middle quartiles	31.6	29.1	39.2	99.9	251
Highest quartile	58.2	23.9	17.9	100.0	48
Whites					
Lowest quartile	12.3	19.9	67.8	100.0	281
Middle quartiles	26.1	29.3	44.6	100.0	1959
Highest quartile	48.4	27.4	24.2	100.0	2474
Hispanics					
Lowest quartile	1.9	25.7	72.5	100.1	79
Middle quartiles	14.0	36.8	49.2	100.0	94
Highest quartile	(9)	(4)	(3)		16
SES by ability					
Lowest ability quartile					
Lowest SES quartile	11.9	25.7	62.4	100.0	259
Middle SES quartiles	12.3	20.0	67.6	99.9	276
Highest SES quartile	9.5	30.5	60.0	100.0	104
Middle ability quartiles					
Lowest SES quartile	22.4	26.6	51.0	100.0	377
Middle SES quartiles	25.6	26.6	47.8	100.0	1187
Highest SES quartile	28.6	34.7	36.7	100.0	823
Highest ability quartile					
Lowest SES quartile	36.6	25.0	38.3	99.9	220
Middle SES quartiles	42.4	27.3	30.4	100.1	1050
Highest SES quartile	54.3	28.5	17.1	99.9	1388

* Percentages are based on weighted data for students who returned all three follow-up questionnaires.

Table 4.9.--Undergraduate degree and enrollment status as of October 1976, by type of college (October 1972 entrants only)

Status	Type of college enrolled in 1972		All Oct. 1972 entrants
	Two-year institutions	Four-year college or university	
BA Degree or bypass			
Before Oct '75	0.6	1.9	1.5
Oct '75 - April '76	0.9	4.0	3.0
May - June '76	8.2	33.0	25.4
July - Oct '76	1.8	4.3	3.5
Date undetermined	0.8	1.8	1.5
BA bypass*	0.7	0.8	0.8
(subtotal)	(13.0)	(45.8)	(35.7)
Current undergraduates			
In 5-year programs	0.9	1.4	1.2
Have 2-year degrees	11.0	1.0	4.0
No academic degree	14.8	24.9	21.8
(subtotal)	(26.7)	(27.3)	(27.0)
Academic college dropouts			
Have 2-year degrees	14.0	1.6	5.4
Prior October enrollment but no degrees	46.4	25.2	31.7
(subtotal)	(60.4)	(26.8)	(37.1)
Total: Percent**	100.1	99.9	(99.8)
Unweighted n	2335	5503	7973***

* Persons listed as "BA bypass" have no Bachelor's degree but are enrolled in graduate or professional school.

** Percentages are based on weighted data for students who returned all three follow-up questionnaires.

*** Includes 81 cases for whom type of college could not be determined.

Table 4.10.--Undergraduate degree and enrollment status for first-time enrollments at two-year colleges in October 1972, by sex, race, SES, ability, high school curriculum, and college plans

Groups	Status as of October 1976			Totals*	
	BA Degree or bypass	Current undergrads	College dropouts	%	n
Total	13.3	26.6	60.1	100.0	2335
Sex					
Males	12.0	31.1	57.0	100.1	1184
Females	14.8	21.6	63.6	100.0	1151
Race					
Blacks	7.9	24.7	67.4	100.0	217
Whites	14.1	26.5	59.4	100.0	1861
Hispanics	4.6	26.3	69.1	100.0	132
Other	15.0	30.9	54.0	99.9	124
SES					
Lowest quartile	7.8	20.6	71.6	100.0	456
Middle quartiles	13.6	25.8	60.6	100.0	1185
Highest quartile	15.6	30.8	53.6	100.0	691
Ability					
Lowest quartile	6.9	17.1	75.9	99.9	303
Middle quartiles	10.9	28.2	60.9	100.0	885
Highest quartile	18.5	31.2	50.3	100.0	465
High school curriculum					
General	6.9	24.8	68.2	99.9	739
Academic	18.8	29.5	51.7	100.0	1253
Vocational	6.4	20.0	73.6	100.0	335

(continued)

* Percentages are based on weighted data for students who returned all three follow-up questionnaires.

Table 4.10.--Undergraduate degree and enrollment status for first-time enrollments at two-year colleges in October 1972, by sex, race, SES, ability, high school curriculum, and college plans--Continued

Groups	Status as of October 1976			Totals*	
	BA Degree or bypass	Current undergrads	College dropouts	%	n
Educational plans after high school**					
Neither planned nor wanted to attend college	0.0	22.4	77.6	100.0	43
Wanted but did not plan to attend	8.0	21.5	70.5	100.0	56
Planned but did not want to attend	7.5	9.8	82.7	100.0	41
Both wanted and planned to attend	14.4	29.8	55.7	99.9	1013
Race by sex					
Black males	5.7	22.0	72.3	100.0	87
Black females	9.9	27.1	63.1	100.1	130
White males	12.5	32.3	55.2	100.0	949
White females	15.9	20.2	63.9	100.0	912
Hispanic males	7.6	21.9	70.5	100.0	78
Hispanic females	0.0	33.2	66.8	100.0	54
Race by SES					
Lowest SES quartile					
Blacks	8.4	24.4	67.1	99.9	121
Whites	8.7	19.9	71.3	99.9	230
Hispanics	1.6	22.5	75.9	100.0	72
Middle SES quartiles					
Blacks	4.8	22.7	72.4	99.9	74
Whites	14.3	25.0	60.7	100.0	992
Hispanics	1.2	34.8	64.0	100.0	47
Highest SES quartile					
Blacks	14.9	29.4	55.7	100.0	21
Whites	15.6	30.9	53.5	100.0	637
Hispanics	(4)	(2)	(7)		13

(continued)

* Percentages are based on weighted data for students who returned all three follow-up questionnaires.

** Attending refers to highest level of education "would like to attain" and "plan to attain," including anything from junior college to professional school (see BQ29A and B).

Table 4.10.--Undergraduate degree and enrollment status for first-time enrollments at two-year colleges in October 1972, by sex, race, SES, ability high school curriculum, and college plans--Continued

Groups	Status as of October 1976			Totals*	
	BA Degree or bypass	Current undergrads	College dropouts	%	n
Ability by race					
Blacks					
Lowest quartile	10.0	15.6	74.3	99.9	83
Middle quartiles	12.7	36.4	50.9	100.0	46
Highest quartile	(0)	(1)	(2)		3
Whites					
Lowest quartile	8.0	18.4	73.6	100.0	150
Middle quartiles	10.5	27.4	62.2	100.1	757
Highest quartile	19.4	30.5	50.0	99.9	430
Hispanics					
Lowest quartile	0.0	12.5	87.5	100.0	48
Middle quartiles	5.8	36.7	57.5	100.0	48
Highest quartile	(0)	(1)	(1)		2
SES by ability					
Lowest ability quartile					
Lowest SES quartile	6.3	11.0	82.7	100.0	117
Middle SES quartiles	9.1	14.6	76.3	100.0	131
Highest SES quartile	4.0	30.2	65.8	100.0	54
Middle ability quartiles					
Lowest SES quartile	7.9	23.5	68.7	100.1	129
Middle SES quartiles	11.9	25.7	62.5	100.1	484
Highest SES quartile	10.3	34.1	55.6	100.0	272
Highest ability quartile					
Lowest SES quartile	7.2	23.9	68.9	100.0	57
Middle SES quartiles	17.0	34.2	48.8	100.0	244
Highest SES quartile	24.7	29.2	46.2	100.1	164

* Percentages are based on weighted data for students who returned all three follow-up questionnaires.

Table 4.11.--Undergraduate degree and enrollment status for first-time enrollments at four-year colleges in October 1972, by sex, race, SES, ability, high school curriculum, and college plans

Groups	Status as of October 1976			Totals*	
	BA Degree or bypass	Current undergrads	College dropouts	%	n
Total	46.2	27.3	26.6	100.1	5503
Sex					
Males	41.4	31.9	26.6	99.9	2787
Females	51.4	22.1	26.5	100.0	2716
Race					
Blacks	34.5	28.9	36.6	100.0	602
Whites	47.9	26.7	25.4	100.0	4579
Hispanics	23.9	37.0	39.0	99.9	122
Others	42.8	33.3	23.8	99.9	199
SES					
Lowest quartile	35.5	27.6	36.9	100.0	745
Middle quartiles	42.6	25.0	32.4	100.0	2268
Highest quartile	51.8	29.2	19.0	100.0	2486
Ability					
Lowest quartile	16.1	32.2	51.7	100.0	307
Middle quartiles	36.8	30.2	33.0	100.0	1463
Highest quartile	54.7	27.1	18.2	100.0	2170
High school curriculum					
General	27.4	31.3	41.3	100.0	789
Academic	50.5	26.3	23.2	100.0	4457
Vocational	21.8	33.2	45.0	100.0	238

(continued)

* Percentages are based on weighted data for students who returned all three follow-up questionnaires.

Table 4.11.--Undergraduate degree and enrollment status for first-time enrollments, at four-year colleges in October 1972, by sex, race, SES, ability, high school curriculum and college plans--Continued

Groups	Status as of October 1976			Totals*	
	BA Degree or bypass	Current undergrads	College dropouts	%	n
Educational plans after high school**					
Neither planned nor wanted to attend college	(0)	(3)	(11)		14
Wanted but did not plan to attend	28.8	20.0	51.1	99.9	40
Planned but did not want to attend	11.2	35.7	53.2	100.1	29
Both wanted and planted to attend	49.4	28.2	22.4	100.0	3212
Race by sex					
Black males	31.5	36.9	31.6	100.0	224
Black females	36.5	23.6	39.9	100.0	378
White males	42.8	31.2	26.1	100.1	2397
White females	53.8	21.5	24.7	100.0	2182
Hispanics males	18.9	41.6	39.6	100.1	63
Hispanic females	29.3	32.2	38.5	100.0	59
Race by SES					
Lowest SES quartile					
Blacks	31.4	30.2	38.4	100.0	278
Whites	41.2	23.5	35.3	100.0	351
Hispanics	20.8	42.1	37.0	99.9	71
Middle SES quartiles					
Blacks	33.9	28.9	37.2	100.0	254
Whites	44.0	24.0	32.0	100.0	1886
Hispanics	24.6	27.3	48.1	100.0	41
Highest SES quartile					
Blacks	48.7	23.8	27.4	99.9	69
Whites	51.9	29.3	18.9	100.1	2339
Hispanics	(4)	(4)	(2)		10

(continued)

* Percentages are based on weighted data for students who returned all three follow-up questionnaires.

** Attending refers to highest level of education "would like to attain" and "plan to attain," including anything from junior college to professional school (see BQ29A and B).

Table 4.11.--Undergraduate degree and enrollment status for first-time enrollments, at four-year colleges in October 1972, by sex, race, SES, ability high school curriculum and college plans--Continued

Groups	Status as of October 1976			Totals*	
	BA Degree or bypass	Current undergrads	College dropouts	%	n
Ability by race					
Blacks					
Lowest quartile	16.8	37.0	46.3	100.1	152
Middle quartiles	36.5	27.7	35.8	100.0	201
Highest quartile	64.7	24.7	10.6	100.0	45
Whites					
Lowest quartile	16.8	23.2	60.1	100.1	114
Middle quartiles	37.2	30.3	32.5	100.0	1170
Highest quartile	54.5	26.9	18.7	100.1	2022
Hispanics					
Lowest quartile	6.2	56.1	37.7	100.0	27
Middle quartiles	23.8	36.2	40.0	100.0	44
Highest quartile	(9)	(3)	(2)		14
SES by ability					
Lowest ability quartile					
Lowest SES quartile	17.9	38.2	43.9	100.0	131
Middle SES quartiles	15.1	27.3	57.6	100.0	129
Highest SES quartile	14.5	30.3	55.2	100.0	47
Middle ability quartiles					
Lowest SES quartile	31.1	29.2	39.7	100.0	242
Middle SES quartiles	36.6	27.1	36.3	100.0	679
Highest SES quartile	38.9	34.3	26.7	99.9	542
Highest ability quartile					
Lowest SES quartile	49.0	25.6	25.5	100.1	161
Middle SES quartiles	50.3	25.1	24.6	100.0	796
Highest SES quartile	58.1	28.5	13.3	99.9	1213

* Percentages are based on weighted data for students who returned all three follow-up questionnaires.

APPENDIX D

CONSTRUCTED EDUCATION VARIABLES

CONSTRUCTED EDUCATION VARIABLES

I. INTRODUCTION

When the third follow-up survey was conducted in October 1976, a substantial number of seniors from the high school class of 1972 had graduated from college, including some who had gone on to graduate school. There were many others, however, who had earned nearly enough credit hours to obtain a Bachelor's degree but had not yet done so even though they were still enrolled four and one-half years after high school. There also were many students who started college either on schedule or as delayed entrants but dropped out after one, two, or three years, some of whom later returned. College attendance, in other words, is a sporadic experience for many high school graduates, and to fully understand this requires precise information on who was enrolled each year.

The main purpose of this appendix is to discuss exactly how a set of variables measuring a student's academic college career can best be constructed, including such variables as enrollment each year in an undergraduate program, graduation with a Bachelor's degree, postgraduate enrollments, and the number of credit hours earned by 1976. The problems encountered in variable construction, as to be noted shortly, are many. They include shortcomings in the construction of some key questionnaire items, changes in key questions between follow-ups, and missing data in some special cases. The problems of misclassification are rather extensive but in most cases can be resolved, given repeated information across three different follow-ups. To do so, however, required an extensive amount of staff time and costs. Therefore, other NLS data users are urged to read this appendix carefully, and, whenever appropriate, to utilize the constructed education variables reported herein.

To give one example of misclassification, we found that when relying only on Fourth Follow-Up Questionnaire data, hundreds of students attending two-year colleges in 1972 were misclassified as being enrolled in vocational rather than academic programs, many of whom later obtained four-year Bachelor's degrees. A major objective was to resolve this and all other problems of misclassification on the college attendance variables whenever 20 or more cases (about one-tenth of one percent of the NLS respondents) were found to be in error.

II. ENROLLMENT IN AN ACADEMIC PROGRAM IN COLLEGE: CACADS

This should be one of the clearest and simplest measures to obtain from the NLS data, given the objectives of the study. However, as it turns out, it is one of the most difficult variables to define. There are two general areas in which the problems fall. The first involves the activity state items for each year, in which the direct question was asked about "taking academic courses in a two- or four-year college" and which might have been used for constructing this measure. The problems, to be discussed below, are (a) the activity state item was not included in all follow-ups; (b) the structure of the item was changed in a small but consequential way between the 1974 and 1976 follow-ups, making it noncomparable across time; (c) the last series of questions on activity states in the third follow-up, TQ158, in which an attempt was made to obtain the earlier missing data retrospectively, are not highly reliable; and, (d) there is high but not perfect correspondence between this type of item and a constructed variable developed from other enrollment information obtained elsewhere in the questionnaire.

The second general problem area concerns our ability to construct an item on enrollment in a college academic program from other information in the questionnaire. Specifically: (a) for some enrollment periods, as many as a hundred steps are required to identify the appropriate respondents, making this method exceedingly complex; (b) the structure of one of the most critical items, college program, was altered in each follow-up in such a manner as to create serious difficulties, particularly in the third follow-up; (c) the item on college curriculum in the first follow-up was so poorly constructed that it led many students to place themselves in vocational programs when actually they were in academic programs; and, (d) problems of missing data on key items occurred repeatedly. The remainder of this section describes in detail all of these problems and our final resolution.

It should also be stated that standards for constructing these college academic program enrollment variables were very high. Actually, whenever 20 or more respondents (one-tenth of one percent of the total number of NLS respondents) were found possibly to be misclassified on any one of these variables for any particular reason, steps were taken to resolve the problem

by examining other data obtained from the respondent. As discussed below, in some instances this could only be done by using retrospective data from the Third Follow-Up Questionnaire in order to resolve problems that arose in the First Follow-Up Questionnaire.

A. The Activity State Items

As mentioned earlier, one problem area encountered in constructing the academic enrollment variables involved the activity state items for each year. Several problems in this area are discussed below.

(a) The most direct item on taking academic courses is contained in the general activity state question. If it had been repeated in the same form each year, it perhaps could have been used more extensively. However, the activity state item did not appear in the First Follow-Up Questionnaire for October 1972 or 1973. It appears for the first time in October 1974 and then in October 1976, and retrospectively (from 1976) for the earlier years--October 1972, 1973, and 1975--as well as again for 1974. If the retrospective data were free of error, it might have been possible to rely more heavily on this information for some or all years. However, as will be discussed later, the retrospective data are not very reliable and they were used as a last resort in classifying only a limited number of cases.

(b) In 1976 the activity state item was changed from how it appeared in 1974 by adding category 2, "enrolled in graduate or professional school," and placing it immediately preceding category 3, "taking academic courses in a two- or four-year college." Category 3, which lists 3,495 persons in academic courses in 1976, we think is a bit too high. For example, it contains 438 more cases than the number who later claim to be studying for a two- or four-year academic degree and 315 more cases than the number who list themselves as freshmen, sophomores, juniors, or seniors. One possible explanation is that it would not be unreasonable for some graduate students to check "taking academic courses....." even though they had already obtained a Bachelor's degree since the item does not explicitly refer to undergraduate studies.

(c) TQ158 in the Third Follow-Up Questionnaire asks for retrospective information on earlier activity states. If the activity-state type questions were to be used for all enrollment periods, it would be necessary to rely upon these recall data for the earlier years where this information is missing.

However, TQ158 does not appear to be that reliable. We were able to directly assess the reliability for one year, 1974, where the item was contained both in the Second Follow-Up Questionnaire (SQ1B) and retrospectively in the Third Follow-Up Questionnaire (TQ158DC). Of the 7,137 persons who said in 1974 that they were taking academic courses in a two- or four-year college in 1974 (second follow-up), 83.9 percent claimed two years later in the third follow-up that they were doing so back in 1974. Conversely, of the 6,843 who said in 1976 they were so enrolled back in 1974, 87.5 percent actually claimed they were enrolled at that time. Although it was necessary to use some of the recall items from TQ158 as mentioned earlier, the data could not be wholly relied upon.

(d) As already noted, even if the retrospective items were highly reliable, there may not be a sufficiently high degree of correspondence between the activity state items and information contained elsewhere in the questionnaire which are supposed to be measuring the same thing. For example, to take the simplest case, we originally constructed a variable for defining "academic undergraduate enrollment" in 1974 using only the questions from the second follow-up on type of school in which enrolled (SQ12) and type of program (SQ21). The constructed variable when cross-tabulated against SQ1B (i.e., the activity state item for 1974) showed a correspondence of 87.9 percent with the constructed variable when SQ1B was used as the base and, conversely, 97.7 percent when the constructed variable was used as the base. Thus, it appears that the activity state items, even for those years that did not require recall data, cannot be wholly relied upon.

B. Limitations Concerning Other Enrollment Items

Given the problems above, the decision was made to rely mainly upon the more specific information in the education section of each NLS instrument. However, there are numerous measurement problems here also which, in some cases, required that we fall back upon the activity state items.

(a) One of these problems is the fact that in some instances as many as 18 different questionnaire items must be examined to define the "academic undergraduate enrollments" for a particular year. (The worst cases are for 1972 and 1975.) This no doubt leads to a certain undeterminable amount of measurement error resulting from the compounded effects of missing data and item unreliability.

(b) The most critical item in the education section, for our purpose, is type of program: FQ36B (1972), FQ28B (1973), SQ21 (1974), TQ76 (1975), and TQ63 (1976). However, in each follow-up, this item was changed. Between the First and Second Follow-Up Questionnaires, the specific fields of study were combined into a new classification scheme and the vocational versus academic distinction was asked in a separate item. This particular change does not create any special problems (although it would if we had to rely on the specific subject fields to determine academic standing, since they no longer are "pure" types in the second and third follow-ups as they were in the first follow-up).

A problem did arise later, however, as a result of the change in form of the general program item in the Third Follow-Up Questionnaire where a third category, "a professional program," was added to the list, along with the vocational and academic categories (see TQ63 and TQ76). The category was added, of course, for the convenience of students enrolled in 1976 in graduate and professional schools. But let's examine TQ63 (type of program for October 1976) where 489 respondents circled a vocational program, 2,136 circled an academic program, and 1,956 circled a professional program. The number in an academic program is over a thousand cases lower than the number who selected the corresponding category in TQ1C, while the number in a professional program is over a thousand cases higher than the number who selected "enrolled in graduate or professional school" in TQ1B.

The main problem, we learned, is that a great many students checked the professional category in TQ63 (third follow-up) even if they were in academic undergraduate programs. First, a crosstabulation shows that 1,140 of these 1,956 respondents (where TQ63 = 3) said in the very next question (TQ64E and F) that they were working for either a two-year or four-year academic degree (and not a graduate or professional degree). Second, when these 1,140 "undergraduates" who claim to be in a "professional program" are sorted on TQ62, which describes their specific areas of study, the results not surprisingly show a heavy concentration of students in applied fields rather than arts and sciences:

Business	15.9%
Education	15.1
Health services	15.4
Professional program	12.5
All other fields	41.1
	100.0%

It therefore is not possible to rely upon the "academic" program category in TQ63 or TQ76 (which has the same problem) to identify the undergraduates.* If we did, we would fall considerably short of their actual number, as well as misclassify many students who belonged but do not appear there. This required using a somewhat different set of questionnaire items for constructing the enrollment variables for 1975 and 1976 in the third follow-up than were used in the first and second follow-ups.

(c) First follow-up items FQ36B (1972) and FQ28B (1973) dealing with the type of program in which students were enrolled had severe problems. One of these, particularly for students in two-year colleges, was confusion about whether they belonged in an academic or vocational curriculum (or both). For example, most students in "park management," "corrections," "oral hygiene," and "physical therapy" listed their program as vocational in October 1973 but as academic when asked retrospectively in 1976 about the same year. This problem with items FQ36B and FQ28B was so frequent that further investigation showed about one hundred students who obtained Bachelor's degrees in 1976 but originally listed their programs of study in 1972 or 1973 as vocational. When asked to provide this information retrospectively, most of these same students claimed they were in academic, not vocational, programs at that time.

(d) Missing data on the curriculum items also was a problem each year. In the First Follow-Up Questionnaire, the problem occurred often, but for no particular reason that could be detected. The problem was even worse in the second and third follow-ups. For instance, it was determined that over a hundred students who received their degrees in 1976 had missing data on the curriculum item in 1974 or 1975 even though

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* An alternative might have been to use "studying for a two- or four-year academic degree" in TQ64 as our definition of academic undergraduate enrollment. However, this was undesirable for one reason and probably impossible for another. Some students enroll in academic programs who are not necessarily studying for a degree (they may simply have not decided yet that they want to finish college). We believe it would be inappropriate to rule them out. More importantly, while information of this type is asked in the same form for 1974, 1975, and 1976, the wording differs slightly for 1973 and no information of this kind was obtained for 1972.

it was clear that they were enrolled in college at the time. It was later learned that in both the second and third follow-ups this was due not to respondent error but to the fact that in both follow-up surveys these items were not asked by telephone interviewers. Most members of the NLS sample who did not respond to the mail surveys received a personal interview. Thus, a substantial number were interviewed by telephone and, in such cases, a limited number of items from the questionnaire was asked. Unfortunately, these items did not include the type of program in which a student was enrolled.

C. Defining the Constructed Variables

Five variables were constructed, one for each October between 1972 and 1976, which define undergraduate enrollment in an academic program in college. As noted above, it was necessary to use a slightly different set of items from each of the three separate follow-up questionnaires. An additional complication resulted for the years 1972 and 1975 since the respondent was asked to complete the information for those years only if either his school or program was different from what it was the following year. This means that in order to determine academic enrollment status in 1972, responses to items for both 1972 and 1973 have to be examined, and, similarly, to determine the 1975 enrollments, items for both 1975 and 1976 are required. In addition to defining all academic undergraduate enrollments, the constructed variables distinguish between (1) enrollment in a two-year college academic program, (2) enrollment in a four-year college or university academic program, and (3) enrollment in an academic program but type of college undetermined. The frequencies for these variables are presented in Table 5.1 and are discussed below.

For all years in which the type of school was undetermined, a standard procedure was employed for placing the individual in category 3 in the constructed variables. That is, if the respondent either did not circle an identifiable college (vocational-technical, two-year, or four-year) or left the college item blank, then the respondent was classified as being in an academic program if he qualified on the other items and, in addition, gave a positive response to the appropriate screening item (such as FQ25) for that period. The latter was included in order to give some extra assurance that the individual actually did belong in that section of the questionnaire.

Table 5.1.--Frequency distributions for the college enrollment variables (CACADS)

Code	Description	Frequencies
	October 1972: CACAD72	
0	Not enrolled in an academic program	12,727
1	Enrolled in a two-year college	2,521
2	Enrolled in a four-year institution	5,956
3	Enrolled in an academic program but type of college unknown	146
9	No First Follow-Up Questionnaire	2,101
	Total	23,451
	October 1973: CACAD73	
0	Not enrolled in an academic program	13,499
1	Enrolled in a two-year college	2,173
2	Enrolled in a four-year institution	5,582
3	Enrolled in an academic program but type of college unknown	96
9	No First Follow-Up Questionnaire	2,101
	Total	23,451
	October 1974: CACAD74	
0	Not enrolled in an academic program	14,097
1	Enrolled in a two-year college	1,044
2	Enrolled in a four-year institution	5,655
3	Enrolled in an academic program but type of college unknown	76
9	No Second Follow-Up Questionnaire	2,579
	Total	23,451
	October 1975: CACAD75	
0	Not enrolled in an academic program	13,738
1	Enrolled in a two-year college	903
2	Enrolled in a four-year institution	5,341
3	Enrolled in an academic program but type of college unknown	110
9	No Third Follow-Up Questionnaire	3,359
	Total	23,451

Table 5.1.--Frequency distributions for the college enrollment variables (CACADS)--Continued

Code	Description	Frequencies
	October 1976: CACAD76	
0	Not enrolled in an academic program	16,705
1	Enrolled in a two-year college	675
2	Enrolled in a four-year institution	2,681
3	Enrolled in an academic program but type of college unknown	31
9	No Third Follow-Up Questionnaire	3,359
	Total	23,451

We have defined as not enrolled in an academic program all persons who were interviewed or returned questionnaires and did not meet all of the tests for assignment to categories 1, 2, or 3. The only "undetermined" cases are those persons for whom no questionnaire was obtained for that period. In other words, if an individual returned a questionnaire and did not report being in an academic program in college, then we presume he in fact was not, even if all the relevant items were skipped.

The discussion below defines the major problems in variable construction and the procedures employed in their resolution.

1. October 1972 and October 1973

For the years 1972 and 1973, an individual qualified as being enrolled in an academic program in a two-year college if he reported being enrolled in a two-year college and one of the academic programs listed in FQ36B or FQ28B. A person was classified as enrolled in an academic program in a four-year college if he indicated enrollment in a four-year institution and non-enrollment in one of the vocational programs. The reason for excluding those in vocational programs rather than including only those listed in academic programs was the high proportion of nonresponse in items FQ36B and FQ28B which is probably due primarily to the formatting of the question. If this procedure had not been followed, a very large number of persons attending four-year colleges would have been defined as not enrolled, the great majority of whom were presumed to be in an academic curriculum. This particular procedure, of course, could not be used in the case of those attending two-year colleges, since the same assumption cannot be made.

As discussed earlier, several hundred academic students who started out in two-year colleges and later attained Bachelor's degrees either missed the curriculum items (FQ36B or FQ28B) or indicated enrollment in a vocational program in 1972 or 1973. Errors in program type also arose among students in four-year colleges, but less frequently than among those in two-year colleges. The only resolution to the entire problem was to allow all individuals to qualify for enrollment in an academic college program in 1972 or 1973 if in the first follow-up they had indicated they were attending college in October 1972 or October 1973 and in the third follow-up claimed retrospectively for either of the earlier years that they were taking academic courses and not vocational courses (TQ158).

2. October 1974

In the Second Follow-up Questionnaire, the format of the item concerning type of program (SQ21) was changed in a manner which gave a clearer definition of the academic-vocational distinction. The new item resulted in substantially fewer errors in curriculum placement than occurred in the First Follow-Up Questionnaire. The general procedures followed in constructing the 1974 college enrollment variable were straightforward for all cases responding to SQ21, program type. There still were, however, a substantial number of nonresponses to SQ21 for persons who, according to other information, clearly were enrolled in either two or four-year colleges in October 1974. Two procedures were used to resolve this problem of nonresponse to SQ21.

The first solution involved defining students to be in "academic" programs who did not respond to SQ21 but indicated in SQ12 that they were enrolled in a two- or four-year college and in SQ23 indicated that they were studying for a two-year academic degree or a college Bachelor's degree. There were still dozens of blanks, however, even when these alternate criteria were used. (As noted earlier, neither SQ21 nor SQ23 was asked in the telephone interviews of nonrespondents in the second follow-up survey, thus the resulting blanks for these items.)

Another procedure for classifying respondents in academic programs involved using SQ1 in the Second Follow-Up Questionnaire, the activity state variable for October 1974. Specifically, if SQ21 was blank and SQ23DA did not indicate that the student was studying for a vocational degree or diploma, then the respondent qualified as being enrolled in an academic program if he reported in SQ1B that he was "taking academic courses" and did not report in SQ1C "taking vocational or technical courses."

3. October 1975 and October 1976

Our decision rules for constructing college enrollment variables from third follow-up data again were different and, in some ways, more complex than those for the preceding years. The basic procedure for 1976 was to define a person in an academic program if the respondent indicated enrollment in an "academic program" or circled "studying for" a two- or four-year academic college degree and was not classified by his college as a graduate or professional student. For 1975, a procedure similar to that employed in the first follow-up was used. That is, in cases where either

type of program or institution was the same for 1975 as in 1976, a series of "if" statements was required to obtain the needed information from items in the alternate year.

Again, however, a number of complications arose. One problem involved some students who stated in the section on school attendance in 1975 that they were enrolled in the same school and same field of study as in 1976. If, as sometimes occurred, a student was an undergraduate in October 1975, graduated in 1976, and enrolled in a graduate or professional program in October 1976 at the same institution, then the respondent would be misclassified in 1975 as a graduate student instead of as an undergraduate that year. Special decision rules were formulated and applied in the computer program to eliminate such occurrences.

Another problem involved an unacceptable amount of missing data on some of the key items used to identify someone in an academic program. The reason for this is that, in the second follow-up, some of these items were not on the list of priority items asked in the telephone interviews during the final stages of the survey work. Most cases of this type were resolved by providing another alternative by which such students could be classified as being in an academic program. If the respondent indicated in the activity state variable that he was "taking academic courses" in October 1975 (TQ9C) or in October 1976 (TQ1C) and did not give a positive response to the corresponding "vocational" items for 1975 (TQ76 and TQ77D) or 1976 (TQ63 and TQ64D), then such students were classified in an academic program.

D. The Reliability of CACAD72 and CACAD73

CACAD72 and CACAD73 both rely to some extent on retrospective data obtained in the third follow-up survey. A question thus arises about the accuracy of attendance rates based upon persons responding to both the first and third follow-up surveys in comparison to rates based upon all first follow-up respondents irrespective of whether or not they responded to the third follow-up. The results are likely to differ since some respondents to the first follow-up will not have responded to the third follow-up.

In fact, while the college attendance rate in 1972 is .404 when all 21,350 respondents to the first questionnaire are included (see Table 1), the rate would increase to .417 if the figure was based on the 19,358

respondents to both the First and Third Follow-Up Questionnaires. Does this mean that the rate in Table 5.1 is lower than it should be? Perhaps, but certainly not as low as the .013 difference between these two figures indicates. On the one hand, if the .417 figure were used, it no doubt would be upwardly biased due to the known tendency of the more successful students to respond to the Third Follow-Up Questionnaire and thus lead to a rate of attendance in 1972 that would be significantly higher than it actually was. On the other hand, using the .404 figure means that some academic college students responding to the First Follow-Up Questionnaire who had erred on the curriculum question are still misclassified in CACAD72 and CACAD73 if they did not respond to the third follow-up. However, the number of such students must be very small since about 90 percent of the respondents to the first follow-up also responded to the third follow-up. Moreover, the response bias (already noted) would tend to further reduce the actual number of college students not responding to the third follow-up. Our best guess, considering only these facts, is that the .404 figure for 1972 may slightly underestimate the true attendance rate for all respondents that year, but probably by no more than about .003 or .004.

It is quite probable, however, that the .404 figure for 1972 is not downwardly biased at all. This is due to the probable misclassification of some of the students who originally listed themselves in a vocational program but are now assigned to the academic curriculum because retrospectively they indicated taking academic and not vocational courses. As noted before, the decision was made to rely upon the retrospective data for 1972 and 1973 when program type was originally indicated by the student as vocational because of so many obvious errors in the original items. (For example, if the item had not been changed, we would have had more than a hundred students with college degrees in 1976 who would not be classified as enrollees in 1972 or 1973.)

Relying on the retrospective data, however, could have moved more students into the academic categories than actually belong there. This especially might be true among the 441 two-year college students in 1973 who originally had listed enrollment in a vocational program but later stated they had been taking academic and not vocational courses that year. It is possible that some of these students really were in a vocational program but in 1976 called it by another name. Most of these

441 respondents had not graduated from a four-year college by 1976. Therefore, these cases were examined very closely in order to allow judgement concerning the reliability of our decision to use the retrospective data.

Several things were apparent from examining the data. One was that 75 percent of the 441 two-year college students had indicated that they were taking academic courses when asked in the First Follow-up Questionnaire what they were "doing now." By 1976, 45 percent had received either two- or four-year academic degrees, and in response to a question on highest level of education attained, 83 percent indicated having enrolled in a college program in a two- or four-year (not vocational) college. Consequently, it appears that probably one-fourth to one-fifth of the 441 students were not actually enrolled in an academic program although they may have been taking some academic courses. On this basis alone, we may have overestimated academic college enrollments on CACAD72 and CACAD73 by about .004 or .005. Since these figures on bias closely parallel those that run in the opposite direction due to our reliance on the third follow-up data, as previously discussed, it appears that our final figures for 1972 and 1973 may be very close to the actual mark for all respondents to the First Follow-up Questionnaire.

III. COLLEGE GRADUATES: TQBA

The NLS Third Follow-Up Questionnaire contains several items asking respondents for information concerning their attainment of a college degree. Because there are discrepancies among these items, procedures were developed to construct and validate a new variable representing attainment of a Bachelor's degree (TQBA).

The first item, TQ48EA, asked "What kind of certificate, license, diploma, or degree have you attained?" A total of 2,854 persons stated they had a four- or five-year college Bachelor's degree. On the very next item, TQ49A, a total of 3,011 persons stated they had finished college (four- or five-year degree) or had a Master's degree or a Ph.D. On the other hand, 3,026 individuals claimed they had "received a Bachelor's degree from a four-year college or university" on item TQ101, which appeared 11 pages later in the questionnaire.

The first step for resolving these discrepancies was to crosstabulate the three items to simultaneously compare their distributions. TQ48EA appeared to be a reliable indicator of degree status, since only nine people claimed a degree on this item but not on either of the others. This claim is bolstered by examining the number of credit hours attained by degree holders measured by TQ48EA. These respondents averaged 128 semester hours. Looking only at the nine discrepant cases, the median, 125, is slightly lower but still well within the range expected for graduates.

In order to make sure that legitimate degree holders were not being eliminated by using only this one item, persons also were assigned a Bachelor's degree if they indicated they had degrees on both TQ49A and TQ101 but had left TQ48EA blank. This procedure added 122 cases to the number of respondents with Bachelor's degrees, bringing the total to 2,976. The credit hours also were examined for this group to make sure that they were being appropriately assigned. The median number of credits (in semester hours) earned by the added cases was between 127 and 128, thereby supporting our assumption that these individuals indeed had obtained college degrees even though they left TQ48EA blank.

Date of degree also was examined to rule out the possibility that some students were listing degrees earned after October 1976 even though questions TQ48 and TQ49 explicitly referred to the student's status as of October 1976. Thirty-four such persons were identified. However, these students might possibly have given dates that were in error. Thus, the undergraduate enrollment status in October 1976 of these 34 respondents was investigated due to the likelihood that they may have been close to receiving their degrees but had not yet done so. Twenty-three of the 34 in fact were enrolled in October 1976 as undergraduates, based on CACAD76. Therefore all 34 cases were eliminated from the "Bachelor's degree" category, thus reducing the total number of degree holders as of October 1976 from 2,976 to 2,942.

One other category of students also was added to the constructed variable in order to include but keep separate persons enrolled in graduate or professional school who had not obtained Bachelor's degrees. Construction of this category, which includes 83 students, is described in the next section on graduate school enrollments. The construction

rules and frequencies for the final constructed variable, TQBA, for college graduates are presented in Table 5.2.

IV. POSTGRADUATE SCHOOL ENROLLMENTS: TQGRDSCL

Three items in the Third Follow-Up Questionnaire directly pertain to graduate school attendance in October 1976, each of which yields markedly different frequencies. TQ1B asked respondents whether they were enrolled in graduate or professional school in October 1976, and 922 people responded affirmatively. TQ60, on the other hand, has only 688 persons stating they were classified by their school as a graduate or professional student at that time, while TQ64G, H, and IA had a total of 786 persons studying for Master's, Ph.D.'s, or professional degrees as of October 1976.

TQ60, which indicates that the person was classified by his school as a graduate or professional student, is the clearest and most conservative measure of the three. As such, it produces the lowest number of postgraduates. TQ64 is not by itself very reliable since some students conceivably could claim to be "studying for" an advanced degree without being enrolled in a postgraduate program. As noted earlier (see Section II.A), the activity state item, TQ1B, also may be somewhat unreliable. Therefore, the decision was made to accept as postgraduates all students who reported being classified by their schools as graduate or professional students (as distinct from undergraduates) in TQ60, and, in addition, to accept as postgraduates all other students who claimed postgraduate status in <u>both</u> items TQ1B and TQ64. A total of 731 individuals met one or the other of these criterion.

There was one further complication. Some of the students who were defined as legitimately enrolled in graduate programs did not have Bachelor's degrees. Since it is possible for some people to skip obtaining a degree and immediately enter graduate or professional programs upon attainment of an appropriate number of credit hours and course requirements, the 731 postgraduate students who have or do not have undergraduate degrees are listed separately in the constructed variable, TQGRDSCL. This includes 648 cases that had a Bachelor's degree and 83 cases that

Table 5.2.--Technical specifications and frequency distributions for the college graduate variable (TQBA)

Code	Description	Frequencies
0	No Bachelor's degree: TQBA ≠ 1, 2, and 9	17,067
1	Bachelor's degree: [TQ48EA = 5 or (TQ49A = 6, 7, or 8 and TQ101 = 2)] and (when TQ48EC = 76, TQ48EB ≠ 11 or 12)	2,942
2	No Bachelor's degree but enrolled in graduate or professional school: TQBA ≠ 1 and [TQ60 = 5 or ((TQ64G = 7 or TQ64H = 8 or TQ64IA = 9) and TQ1B = 2)]	83
9	No Third Follow-Up Questionnaire	3,359
	Total	23,451

did not. Similarly, as mentioned in Section III above, these 83 individuals were included as an additional category of the newly constructed TQBA variable defining college graduates.

For the purpose of validating TQGRDSCL, undergraduate credit hours were inspected for each group of graduate students. Those with Bachelor's degrees had obtained an average of 130 semester hours, while those without degrees had, on the average, 125 hours. The latter figure is only a few hours short of what normally is required for a degree and well above what typically is required for admission to most first-professional degree programs by students who sought to enroll after their junior year. The frequencies and final construction of TQGRDSCL are shown in Table 5.3.

V. CREDIT HOURS EARNED: TQCRDHR

Respondents to the third follow-up of the NLS were asked to give information on the number of credit hours earned toward a Bachelor's degree by October 1976. The question was designed to permit respondents to answer separately the number of semester hours, quarter hours, and other type of credits they had accumulated. Because of the different forms that responses could take, direct comparisons of credit hours earned are meaningless as they stand. In order to make this information more usable, a number of procedural steps were necessary to make the scores comparable and to estimate missing data. The basic procedures followed were to compare distributions on each type of credit with each other and with other information on students' postsecondary educational attainment as described below.

A. Equating Semester and Quarter Hours

Semester hours were chosen as the standard measure for all credit hour scores, and the first procedure entailed equating quarter hours with semester hours for students who listed only one or the other type. Distributions on quarter hours (TQ87A) and semester hours (TQ87B) were obtained from students enrolled in October 1976 by class standing (freshman, sophomore, junior, senior, graduate, special, other, and not classified, as specified in TQ60) to discover whether the standard conversion factor of two-thirds to obtain an equivalent number of semester hours was appropriate for those who gave quarter hours. It was found that this equivalence generally held, with

Table 5.3.--Technical specifications and frequency distribution for the postgraduate school variable (TQGRDSCL)

Code	Description	Frequencies
0	Not enrolled in October 1976 as a postgraduate student: TQGRDSCL ≠ 1, 2, and 9	19,361
1	Postgraduate students with Bachelor's degrees: TQBA = 1 and [TQ60 = 5 or ((TQ64G = 7 and TQ64H = 8 or TQ64IA = 9) and TQ1B = 2)]	648
2	Postgraduate students without Bachelor's degrees: TQBA = 2	83
9	No Third Follow-Up Questionnaire	3,359
	Total	23,451

increasing accuracy progressing from freshman to senior status, as shown in Table 5.4. For persons with Bachelor's degrees, the ratio between semester and quarter hours was exactly two-thirds, the medians being 128 and 192, respectively.

Once the comparability of quarter and semester hours had been determined, it was possible to construct a single credit hour measure combining the two items, using the above conversion factor. The constructed variable thus combines scores on quarter and semester hours allowing respondents to report one or the other or any combination of the two, as follows:

$$2/3\ (TQ87A) + TQ87B$$

This construction makes one important assumption, however. That is, the converted quarter hours in TQ87A can be added to semester hours in TQ87B to give an accurate estimate of total earned hours when students happen to report both types, as many did. One interpretation is that these are transfer students who attended colleges using both systems and they are reporting what they earned at each institution separately. In order to rule out the possibility, however, that those reporting both types of credit hours are simply repeating under two different scoring systems the same total number of hours they have earned, we re-examined the distributions on TQ87 for this group by class standing. Our first assumption was upheld, as shown in the third column of Table 5.4. Students with both types of hours, when quarter hours are converted to semester hours and the two are then added, were well within the normal range for their class standing, although they did have slightly higher scores than students who had given only either semester or quarter hours. A somewhat higher number of credit hours, however, would be expected here since most of these students, if they had transferred, normally would have lost some credits toward graduation and thereby would have ended up with more hours earned than others of the same class standing.

B. Zero Credit Hours

Another category of standard credit hours was the zero category. This includes two types of respondents. Some students reported zero on all three items, TQ87A, TQ87B, and TQ87C, thus identifying those who had been enrolled at some point during the four years but had not earned any credits, and we assume they were telling us so. There were 70 such cases (65 who

Table 5.4.--Median credit hours earned, by educational status in October 1976

Educational status	Quarter hours only	Semester hours only	Both semester and quarter hours**	Either semester or quarter hours**
Freshmen	20.0 (71)**	19.8 (182)	31.3 (17)	19.2 (270)
Sophomores	62.0 (96)	46.1 (260)	63.2 (26)	45.4 (382)
Juniors	114.5 (142)	76.4 (336)	86.5 (26)	76.6 (504)
Seniors	165.2 (363)	110.5 (858)	117.2 (40)	110.3 (1261)
Graduate students	191.3 (138)	129.8 (401)	135.0 (37)	129.9 (576)
Special students	100.5 (24)	120.0 (56)	40.3 (6)	119.2 (86)
Other classification	119.8 (65)	105.0 (127)	83.5 (8)	100.1 (200)
School does not classify	40.2 (44)	54.5 (108)	50.0 (7)	44.7 (159)
All Bachelor's degrees	191.5 (538)	128.3 (1765)	136.2 (82)	128.1 (2385)
Graduate students with Bachelor's degrees	191.3 (138)	129.8 (404)	183.2 (38)	129.9 (580)
Graduate students without Bachelor's degrees	200.0 (15)	119.0 (39)		125.3 (59)

* Quarter hours are converted to semester hours by a factor of 2/3; in the case of both entries (third column), the figures are added after applying the conversion factor.

** Number of cases upon which the medians are based.

NOTE.--All students who were blank in TQ87A, B, and C, or who listed nonzero entries in TQ87C have been excluded in the computations.

responded to all three follow-ups). In order to verify this assumption, we crosstabulated these 70 cases against TQ60 which is the 1976 item on class standing in college. Thirty-nine were not enrolled in 1976 and therefore were missing on TQ60. Of the 31 remaining cases, 19 were classified in 1976 as freshmen, six as "other" classification, and six stated that their college didn't classify students this way. The important point is that none were sophomores, juniors, or seniors.

The second type of respondents who were assigned zero credit hours were those who had left TQ87 (all parts) blank but were first-time enrollees in October 1976. On the assumption that these students could not possibly have been enrolled long enough to earn any credit hours, they were assigned scores of zero. There were 99 cases of this type, bringing the total number of legitimate zeroes to 169.

C. Nonstandard Hours

All of the above procedures ignore the "other types of credit hours," i.e., responses to TQ87C, except those falling into the zero category. No explanation of the meaning of these credits is available in the NLS tapes. Therefore, to determine how to deal with these cases, the distributions on TQ87C were examined separately, looking only at persons who had entered a nonzero response here and gave no semester or quarter hours. There were 889 such cases. The distribution did not tell us much, however, except that there was a heavier than average concentration of scores in the 30 to 40 range and in the 111 to 130 range. Otherwise, the scores were rather evenly distributed.

We then separated out the Bachelor's degree holders (TQ48EA) and reran the distribution on TQ87C for the 206 students who fell into this group. Two different response patterns emerged. The first involves a large number of students who apparently were providing information in a form very similar to semester hours. A substantial number of cases fell in or near the model response categories typical of students with Bachelor's degrees reporting semester hours, as shown below in the 111 to 140 range:

Hours reported in TQ87C	Number of persons with Bachelor's degrees
1-10	0
11-20	6
21-30	2
31-40	87
41-50	6
51-60	0
61-70	1
71-80	1
81-90	2
91-100	2
101-110	2
111-120	22
121-130	36
131-140	19
141-150	6
151-160	3
161-170	1
171-180	2
181-190	3
191-200	1
over 200	4

The second pattern was students who apparently reported the total number of courses they had taken instead of credit hours. For example, 20 of the college graduates who responded to TQ87C said they had earned 32 hours and another 24 students claimed 36 hours. Altogether, 87 students reported hours in the 31 to 40 category, which falls exactly in the range of the average number of courses required for a Bachelor's degree.

At NCES's request, questionnaires for a sample of respondents from the third follow-up survey were pulled and inspected to determine exactly what the students reporting credit hours in TQ87C had stated in the margins when asked to "specify type." Of the 68 legible cases with write-ins on TQ87C that were inspected, 14 respondents clearly were referring to the number of courses they had taken (and not credit hours) and 35 said they were giving either semester or quarter hours (apparently ignoring the entries in TQ87A and B). The other write-ins ranged from answers like "depends on school attended" to "year" or "semesters" to actual clock "hours." Clearly, the bulk of the respondents who made entries in TQ87C, based upon both the content analysis and marginals, were giving either standard credit hours or the number of courses they had completed.

The net effect of these patterns is to make the information in TQ87C virtually useless as given, since a student stating 32 or 36, for example, could actually be referring to semester hours or to quarter hours or to the number of courses completed, and we have no way of knowing which interpretation is correct. We therefore came to two conclusions. First, the information is valid, meaning that the responses made sense to the respondents. And second, the true scores for these respondents would have to be estimated on the basis of other information in the files. (The only alternative would be to go back to hard copy, in which case perhaps as many as three-fourths of these cases could be resolved.)

D. Estimating Missing Data

Because the information on TQ87C could not be used, and because there were a large number of other respondents who had not provided any information on credit hours even though they had been enrolled in an academic program, a procedure was devised to impute the number of credit hours earned for both types of cases. This involved assigning the median semester hours to respondents with missing information or nonzero responses in TQ87C, based upon their class standing or graduate status. Item TQ60, indicating whether the student was a freshman, sophomore, junior, senior, special, other, or unclassified, was used for this purpose, along with two previously constructed variables indicating Bachelor's degree holders and graduate students without four-year degrees. The scores that were assigned are the same medians for semester hours as shown in Table 5.4.

Thus, if the respondent had obtained a Bachelor's degree or was enrolled in 1976, then his graduate status or class standing in TQ60 was used if possible to assign him a score. If the respondent, however, did not have a Bachelor's degree or was not enrolled in 1976, then the individual was traced back to his last (most recent) enrollment period to determine class standing at that time. For example, if it was found that the last time a person was enrolled in an academic program was in 1974 (using our constructed variable, CACAD74) and that in 1974 he was classified as a sophomore, then the respondent was assigned the median number of credits for sophomores, as estimated previously. This procedure was followed for each category within each enrollment period for all students known to have been enrolled since 1972, with one exception. Special and nonclassified students

in earlier periods were not assigned credit hours since it was not known whether the estimated hours from 1976 would be valid for earlier periods. These respondents remain unclassified on credit hours.

The imputation procedures described here led to a reduction in the number of third follow-up respondents with missing or unusable data on TQ87 from 3,434 to 1,295.

E. Final Construction of TQCRDHR

In summary, the constructed variable for credit hours earned toward a Bachelor's degree as of October 1976 is a linear scale based on semester hours. All students who gave only semester hours in TQ87A were assigned the scores they entered. Students who gave only quarter hours in TQ87B had their scores converted to semester hours. Students who gave both semester and quarter hours had their scores added, after first converting the quarter hours to semester hours. Scores for all other respondents were estimated using the procedures outlined above. The resulting distributions on TQCRDHR in October 1976 are shown in Table 5.5.

VI. CONCLUSION

The constructions of the four basic research variables related to the educational progress of the NLS sample members are complex. A measure of all undergraduate enrollments in academic college programs was constructed for each October from 1972 through 1976 (CACAD72, CACAD73, CACAD74, CACAD75, CACAD76). Evidence from the first three follow-ups suggests that the constructed variable for each year is very precise, the error being less than one-half of one percent.

In addition, variables were constructed as of October 1976 for: (a) all persons who had graduated with a Bachelor's degree (TQBA); (b) those who had enrolled in a graduate or professional school (TQGRDSCL); (c) those who had earned credit hours as an undergraduate (TQCRDHR). Each of these measures also required using data from several sources in the follow-up questionnaires. While the credit hour variable is not as precise as the others, due to a considerable amount of missing information and response error, it is believed to have utility for most analytical purposes.

Table 5.5.--Distribution of the credit hours earned variable (October 1976). (TQCRDHR)

Credit hours earned (in semester hours)	Number with missing data estimated
0	207
1-10	346
11-20	862
21-30	297
31-40	308
41-50	801
51-60	335
61-70	398
71-80	537
81-90	362
91-100	440
101-110	642
111-120	671
121-130	1,955
131-140	674
141 or more	375
TQ87 missing (code 599)	1,295
Never enrolled (code 797)	9,431
Undetermined (code 998)	156
No TFU instrument (code 999)	3,359
Total	23,451

APPENDIX E

SURVEY ERROR

SURVEY ERROR

The percentages provided in this report are estimates derived from a sample survey. Two types of errors, sampling and nonsampling, are possible in such estimates, and the accuracy of a survey result is determined by the joint effects of these errors. Nonsampling errors can be attributed to many sources - inability to obtain information about all cases in the sample, definitional difficulties, differences in the interpretation of questions, respondents' inability or unwillingness to provide correct information, mistakes in recording or coding data, and other errors of collection, response, processing, coverage, and estimation for missing data. Nonsampling errors also occur in complete censuses.

Since the percentages are based on a sample, they may be expected to vary from the results that would have been obtained if a complete population census had been taken, using the same survey forms, procedures, and instructions. This difference between a sample statistic and the population value that it estimates occurs because different samples (of all the potential samples that could be drawn) give different population estimates. Variations in the estimates that would be expected among different samples, all drawn according to the same sampling scheme, are measured by the standard error.

Approximate standard errors for various percentages reported in Appendix C can be estimated from Table 6.1. This table, which gives approximate standard errors as a joint function of the estimated percentage and the sample size for the percentage base (i.e., denominator), was prepared by extrapolating from studies conducted for the prior three follow-up surveys. The actual standard error estimate, for a percentage from the complex stratified multistage NLS sample, is inflated over the standard error estimate that would have obtained had a simple random sample of students been selected. Results from the prior studies suggest that a straightforward multiplicative adjustment of the simple random sampling standard error equation adequately approximates the actual standard error estimate for a percentage. These three adjustment factors were found to be 1.39, 1.35 and 1.44 for the First, Second, and Third Follow-Up Surveys, respectively. To be conservative, the largest of these three adjustment factors

Table 6.1.--Generalized standard errors of estimated percentages

Sample size for base of percentage	Estimated percentage										
	1 or 99	5 or 95	10 or 90	15 or 85	20 or 80	25 or 75	30 or 70	35 or 65	40 or 60	45 or 55	50
100	1.19	2.62	3.60	4.28	4.80	5.20	5.50	5.72	5.88	5.97	6.00
250	0.76	1.65	2.28	2.71	3.04	3.29	3.48	3.62	3.72	3.78	3.79
500	0.53	1.17	1.61	1.92	2.15	2.32	2.46	2.56	2.63	2.67	2.68
750	0.44	0.96	1.31	1.56	1.75	1.90	2.01	2.09	2.15	2.18	2.19
1,000	0.38	0.83	1.14	1.36	1.52	1.64	1.74	1.81	1.86	1.89	1.90
1,500	0.31	0.68	0.93	1.11	1.24	1.34	1.42	1.48	1.52	1.54	1.55
2,000	0.27	0.58	0.81	0.96	1.07	1.16	1.23	1.28	1.31	1.33	1.34
2,500	0.24	0.52	0.72	0.86	0.96	1.04	1.10	1.14	1.18	1.19	1.20
3,000	0.22	0.48	0.66	0.78	0.88	0.95	1.00	1.05	1.07	1.09	1.10
4,000	0.19	0.41	0.57	0.68	0.76	0.82	0.87	0.91	0.93	0.94	0.95
5,000	0.17	0.37	0.51	0.61	0.68	0.73	0.78	0.81	0.83	0.84	0.85
6,000	0.15	0.34	0.46	0.55	0.62	0.67	0.71	0.74	0.76	0.77	0.77
8,000	0.13	0.29	0.40	0.48	0.54	0.58	0.61	0.64	0.66	0.67	0.67
10,000	0.12	0.26	0.36	0.43	0.48	0.52	0.55	0.57	0.59	0.60	0.60
12,000	0.11	0.24	0.33	0.39	0.44	0.47	0.50	0.52	0.54	0.55	0.55
16,000	0.09	0.21	0.28	0.34	0.38	0.41	0.43	0.45	0.46	0.47	0.47
20,000	0.08	0.18	0.25	0.30	0.34	0.37	0.39	0.40	0.42	0.42	0.42

NOTE.--The generalized design effect used in computing these values was extrapolated from First, Second, and Third Follow-Up studies.

was used in producing the current table. Thus, an entry in the table is given by

$$\sqrt{1.44\ pq/n}\ ,$$

where p is the estimated percentage, q = 100-p, and n is the sample size of the base of the percentage.

It should be noted, however, that the adjustment factors themselves were based on averages of many such values calculated for former follow-up questionnaire items. The approximations also depend upon the closeness of the actual distribution of the statistics to the normal distribution. The normal approximation of sample percentages is satisfactory except for small samples and extreme percentage values.

The sample percentage and an estimate of its standard error permit the construction of interval estimates with a prescribed confidence that the interval includes the average result of all possible samples selected in such a way that each was surveyed under essentially the same conditions. Then given a sample percentage and its estimated standard error:

- Approximately two-thirds of the intervals from one standard error below the estimate to one standard error above the estimate will include the average value of all possible samples.
- Approximately 95 percent of the intervals from two standard errors below the estimate to two standard errors above the estimate will include the average value of all possible samples.
- Almost all intervals from three standard errors below the sample estimate to three standard errors above the sample estimate will include the average value of all possible samples.